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**Centre for Educational Development,
Appraisal and Research**

**Evaluation of Autism Education Trust
Training Hubs Programme, 2011-13:
Final Report**

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WARWICK

CONTENTS

EXECUTIVE SUMMARY	4
1 INTRODUCTION	10
1.1. The Autism Education Trust.....	10
1.2 The AET training hubs programme	10
1.3 The evaluation of the programme	11
1.4 About this report	14
2 THE LEVEL 1 TRAINING	15
2.1 The L1 training materials.....	15
2.2 Monitoring information on the Level 1 training.....	15
2.3 Evaluation data from the L1 pre- and post-training questionnaires.....	20
2.4 Qualitative follow-up of a small sample of L1 participants	27
2.5 Summary	33
3 THE LEVEL 2 (L2) TRAINING.....	35
3.1 The L2 training materials.....	35
3.2 Monitoring information on the L2 training	35
3.3 Evaluation data from the L2 pre- and post-training questionnaires.....	41
3.4 Evaluation data from L2 follow-up questionnaire.....	44
3.5 Qualitative follow-up of a small sample of L2 participants, parents and pupils.....	54
3.6 Summary	72
4 THE LEVEL 3 (L3) TRAINING.....	74
4.1 The L3 training materials.....	74
4.2 Monitoring information on the L3 training	74
4.3 Evaluation data from L3 pre- and post-training questionnaires.....	80
4.4 Evaluation data from L3 follow-up questionnaire.....	84
4.5 Qualitative follow-up of a small sample of L3 participants	91
4.6 Summary	95
5 Conclusions	96
6 Recommendations.....	97

REFERENCES	98
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APPENDICES

Appendix 1	The L2 self-assessment statements	99
Appendix 2	The L3 self-assessment statements	100
Appendix 3	More on the evaluation methods	101
Appendix 4	Comparing participants' demographic characteristics by level of training .	103
Appendix 5	Age range catered for by session audiences across levels of training	110

EXECUTIVE SUMMARY

The Autism Education Trust (AET) received a grant from the Department for Education (DfE) to deliver a programme of professional development and training to the school workforce during 2011-2013.

The programme had four elements:

- The development of *training materials* at general, enhanced and specialist levels (Levels 1, 2 and 3, respectively)
- The *delivery of this training* through seven training hubs
- The development of a *competency framework*
- The development of *national standards*.

The programme was monitored and evaluated using a combination of quantitative and qualitative methods, agreed by AET and the programme partners. The data that underpin this report are:

- Level 1:
 - 9830 pre-course questionnaires
 - 9769 post-course questionnaires
 - 14 quality assurance forms
 - 26 follow-up interviews with participants (or e-mailed responses)
- Level 2:
 - 856 pre-course questionnaires
 - 879 post-course questionnaires
 - 143 follow-up questionnaires
 - 5 quality assurance forms
 - 14 follow-up interviews including 5 school visits
- Level 3:
 - 176 pre-course questionnaires
 - 169 post-course questionnaires
 - 45 follow-up questionnaires
 - 5 quality assurance forms
 - 6 follow-up interviews

Headline findings:

The AET training hubs programme was highly effective.

- The training materials were developed on schedule.
- The training delivery targets were surpassed.
- Participants' views of the training were very positive.
- Following Level 3 training, the majority of schools:
 - planned to use (67%) or were using (26%) the National Standards
 - planned to use (51%) or were using (35%) the Competency Framework.
- At follow-up:
 - school staff reported that the training had increased their knowledge, skills and confidence; and had stimulated positive changes in practice.
 - school staff and parents reported that these changes had made positive differences for pupils with autism.

Detailed findings

1 Reach

The reach achieved from the seven regional training hubs was impressive.

- Level 1 (L1), a 90 minute awareness raising session for all staff, available from January 2012
 - reached over 10,000 participants, more than double the target of 5000
 - participants came from at least 53 local authorities
- Level 2 (L2), a one day course for those working directly with pupils with autism, available from June 2012
 - reached over 1100 participants, well over the target of 600
 - participants came from at least 20 local authorities
- Level 3 (L3), a two day course targeting those with previous experience and/or a training and leadership role in schools, available from June 2012
 - reached over 250 participants, exceeding the target of 200
 - participants came from at least 10 local authorities

2 Audience

Each level of training attracted a range of participants in terms of demographics, job role and school phase. Within that range, the majority of participants had similar characteristics regardless of training level (Figure 1).

Figure 1 Characteristics of the majority of the audiences for each training level

Descriptor	Level 1	Level 2	Level 3
School type	mainstream	mainstream	mixed mainstream and special
School phase	primary	mixed	mixed
Experience ¹	yes	yes	yes
Previous training	mixed picture	‘one day or more’ no	‘two days or more’ yes
Job	mix of teachers and TAs ²	TA	mix of TAs and teachers
Gender	female	female	female
Education	degree level	degree level	below degree level
Ethnicity	White-British	White-British	White-British
Age	mixed (40s – 20s)	mixed (40s – 20s)	mixed (40s – 20s)

¹ L1 and L2 = ‘working with/teaching at least one pupil with autism’; L3 = ‘leadership role in relation to pupils with autism’.

² TA includes teaching assistant or higher level teaching assistant.

3 Worthwhile, effective training

The training was viewed very positively overall.

- There was a high level of participant satisfaction.
 - e.g. most thought the training was ‘worthwhile’.
 - L1, 86%; L2, 84%; L3, 98%.
 - e.g. average levels of ‘agree’ or ‘strongly agree’ responses to a series of positive statements about the training were very high.
 - L1, 84%; L2, 83%; L3, 93%.

Participants reported that the training made an immediate positive difference to their knowledge and understanding about autism. There were statistically significant mean rises in:

- knowledge about autism (L1).
- confidence about having the knowledge, skills and understanding to support pupils with autism (L2).
- confidence about having the knowledge, skills and understanding needed to improve the education of pupils with autism through enhanced practice in their school or setting (L3).

At follow-up one to three months after the training (longer for some L1 participants), views of the training remained very positive.

4 Positive reports of impact on practice

At follow-up, there were consistent reports of a lasting effect of the training.

a) What changed for staff?

- Level 1 participants reported:
 - enhanced understanding of autism
 - changed, more inclusive, attitudes towards pupils with autism
 - greater confidence about working with pupils with autism
 - whole school developments to enhance the educational experience of pupils with autism, stimulated by the L1 training
- Level 2 participants reported having:
 - significantly increased confidence about having the knowledge, understanding and skills to support the education of pupils with autism compared to before the training (83%)
 - tailored their interaction with pupils with autism to reduce anxiety and stress (80%)
 - improved their teaching approaches (67%) for pupils with autism
 - improved the learning environment (54%) for pupils with autism
 - improved the communication across the school about the needs of pupils with autism (54%)
- Level 3 participants reported having:
 - significantly increased confidence about having the knowledge, skills and understanding needed to improve the education of pupils with autism through enhanced practice in their school or setting compared to before the training (95.5%)

- used what had been learned to support colleagues working with pupils with autism (85%)
- sought the views of parents of pupils with autism (66%).
- used pupil profiles to identify strengths and challenges for pupils with autism (56%)

In addition:

- the Competency Framework was being used by one or more staff members (35%)
- the National Standards were being used to create action plans for the school (26%)

b) What changed for pupils?

When asked about the effects on pupils of any changes made because of the Level 2 or 3 training, participants were cautiously positive. From over a fifth to over a half of participants reported that they 'agreed' or 'strongly agreed' that at least one pupil with autism:

- seemed more confident in school (L2, 45%; L3, 50%)
- participated more in lessons (L2, 44%; L3, 50%)
- had improved educational performance (L2, 33%; L3, 55%)
- had improved school attendance (L2, 22%; L3, 27%)

There were multiple qualitative examples of teachers reporting a positive difference for pupils because of the changes in practice for which the training had been the stimulus. This was also corroborated by parents.

c) What changed for parents?

When asked about the effects on parents of any changes made because of the Level 2 or 3 training, participants were cautiously positive. Over a third of participants reported that they 'agreed' or 'strongly agreed' that parents:

- showed more confidence in the teaching and learning in the school (L2, 38%; L3, 38%).
- seemed more confident to make their views known (L2, 34%; L3, 34%).
- had been involved in their child's education (L2, 33%; L3, 34%).

Parents interviewed (N = 5) each gave accounts of changes made in school because of what staff had learned at the AET training. These had had positive effects on the education of their child. This, in turn, made them feel more confident about the school.

5 Conclusion

The AET hubs training programme was highly effective. It surpassed its delivery targets. There was evidence to support each of its success criteria, with the strongest evidence relating to the impact on staff confidence about their knowledge, understanding and skills to support the education of pupils with autism. Although attribution for outcomes beyond the impact on trainees has to be shared with the individuals and the environment in which they worked, by delivering L1 as a whole school training, and by offering a whole school option at L2 and L3, the AET training hubs programme helped to facilitate the creation of an ethos and environment in which positive change could take place.

6 Recommendations

On the basis of the evaluation evidence presented in this report, we make the following recommendations to the AET.

1. That every endeavour is made to ensure the continuation and expansion of the AET hubs training programme, with an overall aim of eventually reaching across the whole of England and of covering all phases of education.
2. That the take-up of the competency framework and of the national standards is monitored and, if necessary, supported by further promotion and guidance on how to use them.
3. That the quality assurance process is made more systematic to ensure consistent coverage of all hubs at each training level, and that a clear 'support and challenge' process is developed in the event that this should prove necessary for the maintenance of high quality standards over time and the increasing volume of training.
4. That further guidance is given to hub leads around the targeting of the L3 training at those in leadership positions within schools i.e. those with the authority and influence to make system-level changes happen in practice.
5. That trainers in all hubs are encouraged to emulate, where appropriate, the successful practice in one hub of involving a young adult with autism in the training, as this was received very positively by participants, especially at Level 1. Schools could then also be encouraged to involve adult/s with autism in their staff development around autism.

1 INTRODUCTION

1.1 The Autism Education Trust

The Autism Education Trust (AET) was founded by Ambitious about Autism (formally Tree House), The Council for Disabled Children (CDC) and The National Autistic Society (NAS). It launched in November 2007, initially funded by the Department for Children, Schools and Families (now Department for Education: DfE). Acting as an umbrella organisation, by 2011, AET had over 25 voluntary, statutory and community groups from across the autism sector represented on its Steering Group and Advisory Council. It is governed by a Programme Board. Its work is informed by a voluntary Expert Reference Group and a Youth Council of children on the autism spectrum and their siblings. Its vision is:

- 'that all children and young people with autism should receive an education which enables them to reach their individual potential to engage in society as active citizens (and that individuals, families and professionals are informed, supported and equipped to enable this to be achieved)' AET presentation, Sarah-Jane Critchley, July 2011

The AET website can be found at <http://www.autismeducationtrust.org.uk/>

1.2 The AET training hubs programme

Part of the purpose of the AET is to 'further raise awareness of autism education across the children's workforce' (AET presentation, July 2011). In this context, the AET received a grant from the DfE to deliver a programme of professional development and training to the school workforce during 2011-2013.

The programme had four elements:

- The *development of training materials* for the school workforce at general, enhanced and specialist levels (Levels 1, 2 and 3, respectively)
- The *delivery of this training* through seven training hubs
- The development of a *competency framework*
- The development of *national standards*.

The training materials were developed by a team led by academics at the University of Birmingham. The design and production was by Genium. The content and design of the materials were informed by consultation with all the partners in the AET programme, the

AET Programme Board, AET Expert Reference Group, some young people with autism, and parents of children/young people with autism.

The training hubs programme was delivered through seven regional hubs, selected after open tender. The hubs varied in size and type, including local authorities, voluntary sector organisations and a large special school. They were:

- Ambitious About Autism, London
- Birmingham City Council, West Midlands
- Leicestershire County Council, East Midlands
- NORSACA (initially with Nottinghamshire County Council), East Midlands
- Oldham Local Authority, North West
- The Bridge School, London
- The National Autistic Society, South East

As highlighted in the Interim Report (Cullen, Cullen, Lindsay, 2012), the training materials and their delivery through the hubs were not separate parts of the programme but created an interactive synergy with the hub delivery teams bringing to life and supplementing the core materials.

As the 2011-13 DfE-funded programme drew to a close, the AET was awarded a further DfE contract over 2013-15, extending the training hub structure to four English regions not covered during 2011-13, and developing it to meet the needs of Early Years and Post-16 settings. The new contract also covered development of new resources for parents and for local authorities (LAs).

1.3 The evaluation of the programme

Each part of the programme was monitored and evaluated using a combined methods approach agreed by AET and the programme partners. Within the combined methods approach, the majority of data were quantitative rather than qualitative.

The **aims of the evaluation** included monitoring as well as evaluation:

1. To design and implement a sustainable monitoring system for the programme which required minimum oversight from the AET staff.

2. To develop measures and processes to measure success in the following areas:
 - i. Parental Confidence
 - ii. Parental Involvement
 - iii. Rising Standards
 - iv. Pupil/Parental confidence in Teaching and Learning
 - v. Increased attendance and participation
 - vi. Educational performance of children and young people
 - vii. Staff confidence
 - viii. Take up of the AET Competency Framework and Standards

We conceptualised the evaluation aim as a direction of intended travel over time (Figure 1.1)
This was underpinned by our hypothesised theory of change:

- that the content, design and delivery of the training hubs programme training could be expected to make a positive difference to participants' attitudes, knowledge, skills and confidence which, in turn, could be expected, (a) to make a positive difference to pupils' desire to attend school, to participate while there, and thus (b) to improve their educational performance. Positive difference for staff and pupils could be expected to make a positive difference to how involved and/or how confident parents of pupils with autism felt with regard to their son or daughter's school.

This theory of change draws on the findings of the evaluation of the Inclusion Development Programme¹ which showed this direction of travel over time.

In this theory of change, the *direct* influence of the AET training hubs programme input is limited to the *direct* impact on staff. Each of the subsequent stages of change depends upon additional factors affecting the working environment of each staff member. The influence of the schools and other settings in which staff work mediates the impact of the training, the use of the competency framework and of the national standards. Thus the AET can be held accountable for the quality of the training materials, the effectiveness of delivery, the quality and ease of access and use of the national standards and of the competency framework, and the impact of all or any of these on individuals' attitudes, knowledge, skills and confidence. The responsibility and attribution for any subsequent changes, for example, on teacher practice, on school systems, and the effects of these on pupils and parents must be

¹ Lindsay, G., Cullen, M.A., Cullen, S., Dockerell, J., Strand, S., Arweck, E., Hegarty, S., Goodlad, S. (2011). *Evaluation of the impact of DfE investment in initiatives designed to improve teacher workforce skills in relation to SEN and disabilities*. Research report DFE-RR115. Department for Education: London.

shared with the individuals in schools and other settings that have enabled these changes to take place. For this reason, and because the subsequent stages of change may happen over relatively long periods of time (in the evaluation of the IDP for example, this was tracked over three school years), the majority of evaluation data collected and reported focuses on what happened for staff as a result of the training hubs programme.

Figure 1.1 Conceptualising the evaluation aims as a theory of intended change

AET training hubs programme input comprised:

- Training materials & delivery
- Competency framework & qualifications
- National Standards

What happens as a result for **STAFF**?

Measures of success in the following areas:

- staff confidence
- rising standards of good practice
- take-up of AET Competency Framework and Standards

What happens as a result for **PUPILS**?

Measures of success in the following areas:

- pupil confidence in teaching & learning
- increased attendance and participation
- educational performance improves

What happens as a result for **PARENTS**?

Measures of success in the following areas:

- parental involvement
- parental confidence in teaching and learning
- parental confidence overall

The data that underpin this report are:

- Level 1:
 - 9830 pre-course questionnaires
 - 9769 post-course questionnaires
 - 14 quality assurance forms
 - 26 follow-up interviews with participants (or e-mailed responses)
- Level 2:
 - 856 pre-course questionnaires
 - 879 post-course questionnaires
 - 143 follow-up questionnaires
 - 5 quality assurance forms
 - 14 follow-up interviews including 5 school visits
- Level 3:
 - 176 pre-course questionnaires
 - 169 post-course questionnaires
 - 45 follow-up questionnaires
 - 5 quality assurance forms
 - 6 follow-up interviews

Further detail about the methods are included in Appendix 3.

1.4 About this report

This, the final report of the evaluation, builds on two interim reports². The purpose is to provide the AET with monitoring and evaluation data on the delivery and outcomes of the 2011-13 programme, to support the continued development of the training hubs programme.

Chapters 2, 3 and 4 focus on Levels 1, 2 and 3 of the training respectively. Each of these chapters has the same structure, covering monitoring information first and then evaluative data.

To preserve confidentiality, hubs have been allocated random numbers from 1 to 7 and quotes do not show hub or group codes. All percentages are rounded to the nearest integer and so may not sum to 100%. Statistical significance is reported at or below the $p < .05$ level (that is, where the probability (p) of the changes reported being by chance, rather than because of the training, is 5 in a hundred (5%) or less).

² Cullen, Cullen, Lindsay, Charman, 2012; Cullen, Cullen, Lindsay, 2012.

2 THE LEVEL 1 TRAINING

2.1 The L1 training materials

The Level 1 (L1) training was a 90 minute session, aimed at all staff working in English schools catering for pupils in the range, 5 – 16 years old. The target audience ('all staff') included non-teaching and support staff, and others likely to come in to contact with pupils on the autism spectrum, such as taxi drivers or pupil escorts.

The materials were structured as four short modules:

- the individual pupil
- building relationships
- curriculum and learning
- enabling environments.

The aim was:

- to increase understanding and awareness of autism and the way it affects children and young people.

2.2 Monitoring information on the Level 1 training

2.2.1 *The extent and reach of the L1 training*

Before end of March 2013, **488 L1 training sessions were organised**. Of these, we know that **420 took place**; that ten were cancelled and that for the remaining 58 no further information was received (Table 2.1). We report on training sessions by hub, date of training, participating local authorities, school type of participants, age range of pupils taught by participants, and number expected.

L1 training sessions by hub

As Table 2.1 shows, the range in number of L1 sessions delivered by hub was very wide (20-166). This was partly to do with the size of the different training teams but also reflected other issues, for example, different marketing strategies³.

³ (see hub lead interviews reported in Cullen, Cullen, Lindsay 2012)

Table 2.1 L1 training sessions notified to the evaluation team, by hub (number)

Hub	Planned L1 sessions	Cancelled	No further information received	Sessions known to have been delivered
1	37	0	0	37
2	38	0	9	29
3	24	0	4	20
4	90	0	5	85
5	35	0	5	30
6	62	1	8	53
7	202	9	27	166
Total	488	10	58	420

Source: L1 training date alert form

L1 training sessions by term

The L1 training sessions were booked in from January 2012 (2) to March 2013 (44), with a peak during the autumn term of 2012 (Table 2.2).

Table 2.2 L1 training sessions booked in by term

Term	Number of L1 sessions booked (N = 488)
Jan to March 2012	41
April to July 2012	147
Sept to Dec 2012	160
Jan to March 2013	136

Source: L1 training date alert form. Note: an additional four sessions were booked during August 2012.

The steep rise from the first term to the second (Table 2.2) reflects the shift from pilot to final version, time required to engage schools with the aims of the training and the time needed for schools to plan for staff to attend a training event.

L1 training sessions by geographic area

Geographically, the L1 training reached schools in **at least 53 local authorities** (LAs) – ‘approximately’ because some were described as regions e.g. ‘East Midlands LAs’ or

'London' and the information was missing for some training sessions. This is an impressive reach outwards from 7 hubs⁴.

L1 training sessions by school type or setting

The L1 training **mainly reached a mainstream audience** (313 sessions), as intended, but also included special schools (20 sessions), and mixed audiences (28 sessions). (School type was missing for 105 sessions). Other audiences were also named such as children's centres, travel escorts, support teams, foster carers and social workers.

L1 training sessions by age range of pupils catered for by staff attending

The age range of pupils catered for by staff attending the L1 training ranged from age 3 to age 19 but was predominantly 5-11 years i.e. primary school age (Table 2.3)⁵.

Table 2.3 Age range of pupils catered for by trainees

Age range	Number of sessions (N = 488)
Primary/5-11 years	247
Secondary/11-16/18	77
'Mixed' or 'all ages'	69
Early years	3
Missing information	92

Source: L1 training date alert forms.

L1 training sessions by numbers attending

Numbers expected to attend any given training session ranged from 7 - 100⁶. Numbers actually attending ranged from 7 – 200. Most sessions were attended by numbers in the 10s rather than 100s. In total, we know that **over 10000 participants attended L1 training** before the end of March 2013. **This is double the target number of 5000.** (We are not able to give an exact figure because we do not know how many of the planned sessions for which we have no further information actually ran; our total includes sessions where we were informed of the number attending but for which no evaluation questionnaires were returned.)

⁴ (Information on the marketing approaches that achieved this reach is included in the Interim Report (Cullen, Cullen & Lindsay, 2012).

⁵ See Appendix 5 for charts for each training level.

⁶ CEDAR sent out, in response to requests, L1 evaluation sets for 13,712 people.

2.2.2 Demographic profile of L1 attendees

Responses to demographic questions on the L1 pre-training questionnaire (**N = 9830**) provide a profile of those who attended⁷. The questions covered experience of working with/teaching one or more pupils on the autism spectrum, amount of previous training on the autism spectrum, job, gender, level of education, ethnicity, and age.

Experience:

- **80% had experience of working with/teaching one or more pupils on the autism spectrum.**

Previous training:

- **37% reported having had no previous training on the autism spectrum**
 - 'some' (30%); 'very little' (24%), 'quite a lot' (7%); 'a lot' (3%)⁸.

Job:

- **teachers (36%) or teaching assistants (34%)** were the largest groups
 - lunchtime/midday supervisors (8%) were next largest group
 - small numbers of adults (3% or under) each from **a wide range of roles**, also attended
 - e.g. SENCOs, pupil escorts, office staff, governors, taxi/bus drivers, headteachers.
 - 'other' jobs (18%) were very varied
 - e.g. attendance officer, behaviour and family support worker, careers adviser, deputy head of care, early support administrator, family group conference organiser, general assistant, head cook, ICT technician, keyworker, LA advisory officer, maintenance manager, nurse, occupational therapist, parent helper, receptionist, school attendance officer, targeted youth support worker, under-5s education worker, volunteer, welfare adviser, youth worker. (Respondents could tick more than one option although few did so.)

Level of education

- **university degrees (47%)**
 - GCSE or equivalent qualifications (13%);
 - A/AS level or equivalent (7%);
 - HE below degree level (13%)
 - no qualifications (2%)

⁷ Charts comparing participants' demographic characteristics by level of training are given in Appendix 4.

⁸ See previous reports for illustrative examples of how these categories were interpreted.

- 'other' qualifications (18%)

Gender:

- **female (85%)**

Ethnicity:

- **'White-British' (80%)**
- Other ethnicities represented by at least 1% of participants were:
 - 'White-Other group' (4%), Pakistani (4%), Black – Caribbean (3%), Indian (3%), and Bangladeshi (1%).
- A wide range of other ethnic groups were represented (each by <1%)

Age:

- Largest group were in their **40s (29%)**
 - 20s (24%); 30s (24%); 50s (9%); '60 or over' (4%); 16-19 (1%).

The demographic spread reported here is almost identical to that of the participants in the first four pilot L1 training events.⁹ The main differences are that the range of ethnicities represented across all the sessions is much wider, as is the range of roles of participants.

2.2.3 The quality assurance of L1 session delivery

Fourteen L1 quality assurance forms were completed and submitted to the evaluation team, the first from a session held in March 2012 and the last from a session held in July 2012. Each hub had at least one quality assurance visit, two had two such visits and two had three. Table 2.4 shows the frequencies for achievement of each quality statement. The open comments by the AET observers provided a qualitative description of each session, highlighting strengths and any weaknesses. These were fed back verbally to the trainer/s on the day. As Table 2.4 shows, overall, the quality of the training delivery was judged highly by the AET observers.

⁹ Cullen, Cullen, Lindsay & Charman, 2012

Table 2.4 L1 quality assurance monitoring

Aspect	Quality statement	Achievement
Punctuality	Started without undue delay.	12
	Ended on time.	11
Evaluation questionnaires	Time allocated to complete pre-questionnaire.	11
	Time allocated to complete post-questionnaire.	14
Facilities	Room big enough for size of group.	14
	Equipment good enough for DVD to work well.	13
	Equipment good enough for sound to be clear.	12
Content	AET-branded core material slides were used.	14
	All key messages covered.	14
	More than one film clip included.	13
	More than one case study was used.	9
	Practical activities were included.	9
	Attention was drawn to the participant handouts.	10
	Attention was drawn to L2 and L3 training offer.	11
Differentiation	Hub supplementary material was used.	9
	Additional 'voice' of parents/young people with autism was included.	14
	Training delivery was well-matched to audience.	13
Interaction	Trainer introduced him/herself to participants.	14
	Participants had opportunity to join in discussion.	13
	Trainer answered questions in friendly way.	14
	Trainer-participant dynamic was positive.	14

Source: L1 quality assurance monitoring forms. N = 14.

2.3 Evaluation data from the L1 pre- and post-training questionnaires

2.3.1 Knowledge about autism

Those attending the training were asked to complete a short quiz made up of 8 questions both before and after the training. Answer options were 'not sure', 'false', 'true'. Participants were asked to put 'true' or 'false' only if they were sure this was the correct answer. The statements were designed to link in to the *most basic level* of the key learning content of the four modules in the course (two statements per module). The statements related only to the

learning content of the core slides in the materials as this was the one aspect that should have been a constant in every session. (Trainers were expected to use the core content slides but use of all other L1 materials was flexible and sessions would also include content from the trainer's own experience, knowledge and bank of resources. This was an important part of the added value of the hub delivery).

The quiz had two purposes: a) to assess the level of basic knowledge and awareness of autism before the training and b) to check whether or not the training had succeeded in raising this level. The first purpose monitored whether or not the audience included the target audience of those with limited awareness and/or incorrect understandings of autism; the second contributed to the evaluation of the training. The quiz was *not* designed as a test of all, or even the main learning participants would gain from the training; rather it focused on a 'bottom line' of knowledge and awareness. We received back **9246 matched** pre- and post-training questionnaires.

Table 2.5 shows the frequency of correct answers given before and after the training (questionnaires matched pre- and post-training).

Table 2.5 Knowledge about autism before and after the training

Statement	% correct answer	
	before	after
a) Children grow out of autism.	91	98
b) Autism involves four main areas of difference.	33	98
c) Pupils with autism may have difficulties with social skills.	97	99
d) Knowing a pupil is on the autism spectrum is enough to tell exactly what that pupil can or cannot do.	88	91
e) Finding out as much as possible about an individual pupil with autism helps staff to work well with him/her.	98	99
f) Pupils with autism can never be independent learners.	88	93
g) Pupils with autism may be sensitive to everyday sounds.	87	99
h) Most pupils with autism enjoy unexpected changes.	90	96

N = 9246 matched pre- and post-training questionnaires.

Table 2.5 shows that almost all participants (from 87% to 98%) already knew, or could correctly guess, the answer as to whether the statement was true or false, apart from the statement about autism involving four different areas of difference. The table also shows

that, for each statement, the percentage giving the correct answer rose from pre- to post-training.

To analyse whether or not the post-course responses indicated a statistically significant difference from pre-course responses, the answers were re-coded with a correct answer scoring 1 and incorrect scoring 0. Pre- and post-course Knowledge Total Scores were calculated and the means compared using a paired *t*-test.

- This showed a **statistically highly significant rise in the mean Knowledge Total Score after the training** (Pre-course: $M = 6.72$, $SD = 1.20$. Post-course: $M = 7.73$, $SD = 0.66$. $t = 85.74$, $df = 9159$, $p < .001$)

Thus the L1 training succeeded in its most basic aim of raising the foundation level awareness of autism.

2.3.2 Views of the training

Closed responses

After the training, participants were asked to indicate, on a five-point Likert-type scale running from 'strongly disagree' to 'strongly agree', how much they agreed or disagreed with six statements about the training. The statements and results are shown in Table 2.6.

Table 2.6 shows that:

- the majority of participants 'agreed' or 'strongly agreed' with each positive statement (a – d). This indicates that, **for most, the training increased their knowledge, awareness, and understanding;**
- the majority also knew where to find out more about autism (statement e) and were interested in further training (statement f).

Table 2.6 Views about the L1 training (%)

Statement	Scale (%)				
	Strongly Disagree 1	2	3	4	Strongly Agree 5
a) I found this training worthwhile.	2	3	10	30	56
b) This training has increased my knowledge about autism.	2	4	13	30	51
c) This training has increased my awareness of the differences that pupils on the autism spectrum may experience.	2	4	12	32	50
d) I think this training will help me to be more understanding of pupils with autism.	2	4	11	31	52
e) I know where to find out more about autism.	2	4	15	34	45
f) I am interested in further training about autism.	2	4	15	27	53

Source: post-training questionnaire. *N* varied from 8880 to 9025.

To explore views of the training further, we created dichotomous categories: those who had ticked 4 or 5 on the scale (equivalent to 'agree' and 'strongly disagree') and those who had not. We then explored these dichotomised views of the training by selected groups of participants. Selecting *only those participants who had experience of teaching or working with at least one pupil with autism* and looking at their views of the training, showed that a majority (from 78-85%) 'agreed' or 'strongly agreed' with each of the statements in Table 2.6.

When we selected only the small group who had received 'a lot' of prior training on autism, only a minority (48%) agreed with statement (b) in Table 2.6, that the training had raised their knowledge or awareness of autism. This is to be expected as the L1 training was short and pitched at an introductory, general level. It indicates that responses to the views of the training are credible. What is very positive in terms of views of the training is that a majority even of this group with 'a lot' of prior training agreed that the L1 training was worthwhile (73%), helped them to be more understanding of pupils with autism (56%), increased their knowledge of where to find out more about autism (81%) and were interested in further training about autism (79%).

We used one-way analysis of variance (ANOVA) to explore whether or not the mean response (Likert scale: 1 'strongly disagree' to 5 'strongly agree') to the statement, 'I found this training worthwhile'¹⁰, varied by training hub¹¹. For each hub, the mean was in the 'agree' to 'strongly agree' range ($M = 4.20$ to 4.47) but there were significant differences by hub at the $p < .001$ level, suggesting that the strength of agreement varied slightly by hub delivery. The mean response was significantly higher in Hubs 1, 6 and 7 compared to Hubs 2 or 4. However, the estimated effect size for this was very small. There were no other significant differences. In looking at hub differences in this regard, it should be borne in mind that for each hub a majority of participants 'agreed' or 'strongly agreed' that the training was 'worthwhile: 82% – 89%. Those who 'strongly agree' varied across the hubs from 45% to 66%.

Open responses

Just over a fifth (2153: 22%) of participants gave an open response. Although they were asked what else they would have liked in the training session they attended, **41%** of these open responses took the form of **a totally positive comment about the training**. A few illustrative examples of these, chosen randomly from within comments beginning with any particular letter, are given in alphabetical order in Figure 2. 1.

¹⁰ Statement (a), Table 2.6.

¹¹ Sheffe post hoc tests were then used to explore where differences, if any, lay i.e. between the hubs.

Figure 2.1 Illustrative positive comments about the L1 training, randomly selected within each alphabetical group

- 'As pastoral Achievement Coordinator and lunchtime manager, it has made me aware of changes we could make at lunchtimes.'
- 'Brilliant presenter, examples and resources. Thank you!'
- 'Confirmed what I am doing in school is working and fits in with current thinking.'
- 'Did not understand and recognise autism previously. However, now know what to look for and how to deal with it in my teaching career.'
- 'Encouraged me to stop, look and observe and reflect on causes/patterns of behaviour.'
- 'Found video clips of children and adults with autism really interesting as they really highlighted the needs and difficulties of school setting for these pupils and what we need to be mindful of.'
- 'Good activities, a lot of helpful information and useful examples of strategies.'
- 'Handouts were useful for summarising key ideas.'
- 'I am currently in a nursery with two autistic children and wasn't sure how to deal with them but after this training I feel more comfortable.'
- 'Just right.'
- 'Knowledgeable and enthusiastic tutor. Thank you.'
- 'Learnt a lot about autism; well planned and detailed; well presented.'
- 'Made me think about including whole class, not just 1:1 with named child.'
- 'Points of view from autistic children were good and showed a different insight.'
- 'Really helped understand a pupil's needs.'
- 'So helpful – I hope I'll be able to understand and support my child better.'
- 'Thank you. An interesting presentation with a good balance of clips of video, tasks, listening and asking questions. Current and up to date.'
- 'Useful information about the classroom environment.'
- 'Very good presenter – knowledgeable and passionate about the subject.'
- 'Watching the video clips of the children and hearing their viewpoint opens your mind a lot more to what autism is like.'

Source: L1 post-course questionnaire, open responses.

The second biggest single group (310: **14%**) of open comments were those beginning with the word 'more' – that is, people wanted more of particular aspects covered in the training. This suggest that **the relatively short length of the session (90 minutes maximum) whetted people's appetite for 'more'**. These comments covered a wide range of suggestions including, for example:

- more case study examples
- more strategies to apply
- more practical activities
- more advice on how to handle particular issues
- more detail on various different topics, such as managing challenging behaviour
- more information to take away and read
- more time in the session
- more video clips.

Detailed analysis of the remaining open responses was not undertaken but a read through of all of them showed that they were all different ways of saying the above; no other themes were found with the exception of one hub where the training was co-delivered by a young man on the autism spectrum. In this hub, of 109 open comments, 75 (69%) mentioned this fact in highly positive terms, with only one less positive comment suggesting an inappropriate focus on Asperger's.

Figure 2.2 Illustrative comments about having a young adult with autism as a L1 co-trainer

<p><i>One negative comments (out of 76)</i></p> <ul style="list-style-type: none"> • 'Asperger's perspective. Highlights intellectual strengths of particular individual with ASD giving impression that one group is more valuable than the other. Professionals need to be mindful of giving this impression.' <p><i>Illustrative positive comments (from 75 out of 76 on this topic)</i></p> <ul style="list-style-type: none"> • '[Name] was extremely informative and has allowed me to understand what each potential student needs when conversing, to have a non-judgemental approach.' • 'Excellent to have an Asperger's speaker to offer insight.' • 'Great to hear someone with difficulties like my pupils as they cannot say how they feel. Gives insight.' • 'It was very interesting to hear [Name's] experiences in mainstream and special school. I would like to hear more from young people and adults with autism.'

2.3.3 Interest in additional AET training on autism

The post-course questionnaire asked respondents about their current role in order to gain a sense of whether or not they would fall in to the main target groups for further AET training (L2 and L3). They were also asked to indicate whether or not they would be interested in this training. Of those who responded:

- **61%** ($N = 8292$) regularly worked with pupils with autism, therefore belonging to the **main target group for L2 training**.
 - **6519 trainees** were interested in L2 training: **‘yes’, 56%; ‘possibly’, 36%**.
- **18%** ($N = 7764$) trained or led other staff in their setting, representing the **main target group for L3 training**. Interest in L3 training was wider than this group:
 - **3322 trainees** were interested in L3 training: **‘yes’, 1606; ‘possibly’, 1716**.

These findings reflect the appetite for ‘more’ found in the open answers reported in Section 2.3.2 and indicate that the L1 training can be viewed as a fertile ground for the L2 and L3 training.

2.4 Qualitative follow-up of a small sample of L1 participants

After discussion with hub leads at an AET Partner meeting, it was agreed to focus follow-up of the L1 training on a small, qualitative sample. For each hub, five training sessions were chosen as a random sample stratified by phase of education. Hub leads were asked to provide the contact details of the person who arranged that training session. This person was then contacted and asked for contact details for at least one person who attended the L1 training. A short (5 questions only) telephone interview was then arranged or, if the person preferred, they could e-mail their responses. In all, 26 responses were gathered and are reported here. Responses were received from a range of staff, including, for example, teachers, teaching assistants, transport staff, learning mentors, and SENCOs.

The questions related to five areas:

- understanding of autism
- attitudes towards pupils on the autism spectrum
- understanding of everyday situations that a pupil on the autism spectrum might face
- any other response to the training
- knowledge of colleagues’ responses to the training.

Overall, the follow-up feedback was very positive. Responses are presented here in relation to the five areas.

2.4.1 Effect on understanding of autism

Respondents noted that the Level 1 training was effective in enhancing understanding for participants who had little or no prior knowledge of ASD, and for those who were refreshing previous training and knowledge. For example:

‘Before the training I personally had little understanding of what autism was. Therefore the training was highly beneficial towards my knowledge of the experience people with autism can have, especially young children’ (L1/3)

‘The training reinforced my thoughts on autism and provided me with the opportunity to explore these ideas further.’(L1/4)

Giving an overall assessment of how the training had advanced understanding during a whole school staff session, one SENCO explained that the training was ideally suited to its purpose and provided important information (Box 2.1):

Box 2.1 An overall assessment of the value of the Level 1 training

‘The training was pitched at the right level. For the majority of staff this was their first experience of autism training delivered by a specialist. In addition to a general definition, the triad of impairment and the four key areas of difference, I think the key piece of information gleaned from this training was that autism presents itself in different ways for different people and that not all people with autism experience the same difficulties.’ (L1/12).

2.4.2 Effect on attitudes towards pupils with autism

In terms of the impact of the Level 1 training on attitudes, there were a variety of responses:

- Individuals noted that with a better understanding of autism, they had changed their attitude to behaviour which they had previously tended to regard as ‘naughty’ behaviour’.
- More frequently, respondents said that with better understanding they felt more confident in their ability to work with, and to support pupils on the autism spectrum.

- Enhanced understanding and changed attitudes were also seen to enable developments to be put in place at whole school level for individual pupils and to improve autism teaching, learning and support in general.

As a result of the L1 training, trainees reported a better understanding of behaviour, which had made them reappraise their perceptions of 'naughty' behaviour. Two examples of this change in attitudes were: 'I have thought more about autistic behaviour versus "naughty" behaviour', (L1/6); and 'I now know when they are being naughty they really are not but just being themselves', (L1/24). Similarly, a SENCO reported that the training had a positive impact on support staff attitudes to autism (Box 2.2).

Box 2.2 Changed attitudes to autism

'Very positive impact on attitudes. I have witnessed support staff and dinner ladies having positive and appropriate conversations with pupils with ASD, using appropriate language and personal space.' (L1/5).

Improved confidence in the ability to work with and support pupils on the autism spectrum was frequently mentioned by respondents (Box 2.3).

Box 2.3 Level 1 training and improved staff confidence re supporting pupils with autism

'My knowledge before the course was limited, however, since doing this course I have been able to enhance my knowledge and understanding of autism. Before I lacked confidence because I felt I wasn't knowledgeable, and did not understand them. But because of this training I feel more confident.'
(L1/21)

'I have greater confidence and awareness of autism.' (L1/1)

'The training has given me confidence in what I am doing.' (L1/4).

It was also apparent that changed attitudes at whole school level had the potential to bring about important changes in support available to pupils with autism (Box 2.4).

Box 2.4 Level 1: improved knowledge, enhanced understanding and school level development for ASD

‘Enhanced understanding – as a school we are starting to monitor behaviours looking at triggers and reactions rather than simply behaviours.’ (L1/11)

‘It [Level 1 training] has enabled the school to develop to an extent where we can now offer placements to children who have higher levels of autism and meet their needs. We have built a quiet room area with less stimulus and employed a member of staff from a special school who worked in their autism unit.’ (L1/8)

Some respondents also provided good examples of the direct impact of the training on school provision for pupils on the autism spectrum. One respondent explained how information and advice from the Level 1 training enabled a school to create a support, teaching and learning package for a pupil (Box 2.5).

Box 2.5 Level 1: the impact for one young person

‘Shortly after the training, I was approached by the parents of a child in Year 6 who is in the process of being diagnosed. The child had expressed great anxieties about moving out of his primary school into secondary. Using information and advice received in the training, the child’s parents and I were able to put together a plan to alleviate these anxieties: very short visits to the college, trips into the ICT suite (he loves computers), and a visit to a science lab where a colleague (who had also attended the training) had left a circuit board lying around (he is mad keen on circuits). The parents have reported back that he cannot wait for his next pop in !’ (L1/12).

2.4.3 *Effect on understanding of everyday situations for pupils with autism*

Respondents welcomed the coverage of the potential difficulties, stresses and challenges faced by people on the autism spectrum in everyday situations. A common theme in

responses was that the training had enabled participants to understand that routine situations could be a source of anxiety and stress for young people with autism (Box 2.6).

Box 2.6 Autism and daily life

‘Things that we take for granted are not always straightforward as we perceive them to be! It was beneficial to remember that there are some pupils who can find many everyday experiences difficult to process or highly stressful. Sometimes we can have no idea of the internal turmoil a child may be battling with.’ (L1/2).

‘It [the training] showed how pupils with autism experience the world and improved our knowledge and understanding of the ways in which “normal, everyday” situations may be perceived quite differently by pupils with autism and require different types of response from teachers and other adults working with them’ (L1/7)

There was also a sense that this insight enabled participants to better respond to, and support children and young people in daily situations, with, for example, one participant noting, ‘I know how to help if anything happens to any of the kids on my bus,’ L1/20.

2.4.4 Other feedback

A small variety of additional comments were made regarding the Level 1 training, with the most frequent being positive comments about the nature, content and delivery of the training. For example:

‘The training materials were well presented and well delivered. The trainer was able to answer questions thoroughly and stayed afterwards to discuss specific questions from two or three members of staff. She knew that some staff had experience of working with children with ASD, whilst others had limited or no experience and managed to deliver the materials in a meaningful way without discussing issues at too “high” or “low” a level,’ (L1/2).

Similar comments included, for instance, ‘It was very clear, well-paced and professionally delivered’ (L1/1); ‘The trainer was very helpful; she engaged the group and was helpful with specific questions. It has pushed me to seek further training’ (L1/4). Respondents also

welcomed the chance to come together as a workplace group and train and discuss issues. Comments here included:

‘It was really good to come together as a group to share experiences and learning and to just focus for a few hours on the issues presented by working with people with autism’ (L1/10).

‘The training is great and doing training in groups helps as you discuss the different sides to autism,’ (L1/25).

2.4.5 *Feedback about colleagues’ responses*

Responses to the question regarding the reaction of colleagues to the training were uniformly positive, with respondents praising the content, delivery and usefulness of the training (Box 2.7).

Box 2.7 Feedback on colleagues’ perceptions of the overall value of the training

‘The training was attended by all the staff at the school and was highly rated by staff: positive feedback received subsequently in staff briefing meeting and anecdotally. At least one member of staff is following up with level 2 and 3 training,’ (L1/7).

‘I went to the training with a few people I work with, so in our breaks we talk about what we have learnt and that we did not realise about autism,’ (L1/25).

‘The training was considered to be useful by all attending. It was discussed briefly at a staff meeting where staff said that they had liked the delivery style of the trainer. It was generally felt that she was knowledgeable and realistic and had plenty of practical examples to draw upon to answer questions. The materials were succinct and the video clips were liked by all as they demonstrated the point being discussed clearly’, (L1/2).

The whole staff approach of the L1 AET training meant that key non-teaching staff also benefited from the enhanced understanding of autism that came from participating in the training. For example, school transport staff, responsible for bringing pupils with autism to school, benefitted, with one explaining:

‘If anything it [the training] has made me understand them more (or not to “understand” them – that sounds a bit patronising), but basically it allowed you to sort of think and understand more regarding the effects of how what we do would affect children with high and low levels [of ASD]’, (STC1).

This school transport manager had undertaken the Level 1 training, along with 90 of 120 transport staff, and it was hoped that all 120 staff would eventually undertake L1 training, as it was ‘perfect for our staff [...] it was enough to give an insight and a basic benchmark of understanding the needs of the children’, (STC1).

The responses discussed in this section, from a randomly selected, small follow-up sample of L1 participants, are impressive in their positivity and specificity of lasting effects from training input lasting a maximum of 90 minutes.

2.5 Summary

Reach

Level 1 was very successful in attracting more than twice the target number of delegates.

- 488 Level 1 training sessions booked
- 420 known to have been delivered
- over 10000 participants drawn from at least 53 local authorities

Participants were drawn from a range of settings.

- the majority were from mainstream settings
 - those from special schools, mixed settings, children centre workers, travel escorts, support teams, foster carers and social workers also attended
- the majority worked with primary-aged pupils
 - others worked with secondary school pupils, those in 3-19 settings, and Early Years
- teachers and teaching assistants each comprised a third of the audience
 - a wide range of other job roles were also represented

Room in the market

- The 90-minute L1 training attracted a substantial group of the school workforce who had previously received no autism training (37%).

Effectiveness

The training met its aim of increasing understanding and awareness of autism and of the way it affects children and young people.

- a statistically highly significant rise in the mean Knowledge Total Score after the training
- open responses about the L1 training were overwhelmingly positive
- a majority were interested in further training on autism, indicated that the L1 training is as fertile recruiting ground for L2 and L3 training
- follow-up feedback was very positive, showing:
 - increased understanding of autism
 - consequent improvements in attitudes towards pupils on the autism spectrum
 - improved confidence in working with children with autism
 - developments in provision for pupils with autism

3 THE LEVEL 2 (L2) TRAINING

3.1 The L2 training materials

The Level 2 materials were aimed at teachers and TAs working with one or more pupils with autism. The structure of the materials mirrored the four modules of L1 but the depth of content was very different, reflecting the shift from a 90 minute overview to a one-day course focused on practice.

The aim of the L2 training was:

- to support all staff working directly with pupils with autism in all types of provision to develop good autism practice.

3.2 Monitoring information on the L2 training

3.2.1 *The extent and reach of the L2 training*

Before end of March 2013, we know that **69 L2 training sessions were organised**: of these, we know that **58 took place**; that two were cancelled; for the remaining 9 no further information was received (Table 3.1). We report on training sessions by hub, date of training, participating local authority, school type, age range of pupils supported, and number expected.

L2 training sessions by hub

As Table 3.1 shows, there was a relatively wide variation in the number of L2 sessions delivered by hub, with, for example, Hub 7 delivering about four times as many as Hub 1 (15 vs. 4). This is partly explained by the size of the different training teams but probably also reflects other issues raised in the hub lead interviews¹² about the complexities of fitting one-day training into schools' development planning.

¹² Cullen, Cullen, Lindsay 2012

Table 3.1 L2 training sessions notified to the evaluation team, by hub (number)

Hub	Planned L2 sessions	Cancelled	No further information received	Sessions known to have been delivered
1	4	0	0	4
2	8	1	0	7
3	9	0	3	6
4	10	0	2	8
5	8	0	1	7
6	14	1	2	11
7	16	0	1	15
Total	69	2	9	58

Source: L2 training date alert form

L2 training sessions by term

The L1 training sessions were booked in from June 2012 (8) to March 2013 (11), with a peak of 14 in November 2012. Table 3.2 shows L2 sessions booked by term.

Table 3.2 L2 training sessions booked in by term

Term	Number of L2 sessions booked (N = 69)
June to July 2012	9
Sept to Dec 2012	31
Jan to March 2013	29

Source: L2 training date alert form.

The steep rise from the first term to the second (Table 3.2) reflects the shift from early piloting to final version and the time needed for schools to plan for specific staff to attend a one-day training event.

L2 training sessions by geographic area

Geographically, the L2 training reached schools in **at least 20 local authorities (LAs)** – ‘approximately’ because some were described loosely e.g. ‘various’ and the information was missing for some training sessions. This reach was achieved from the seven regional hubs.

L2 training sessions by school type or setting

The most frequent audience for the L2 training was a **mainstream** one (28 sessions), as intended, but **mixed** (mainstream and special school) audiences were also frequent (25 sessions). Sessions for special school staff only were a smaller proportion (4 sessions). (School type was missing for 11 sessions). One other setting was named as 'private provider'.

L2 training sessions by age range of pupils catered for by staff attending

The age range of pupils catered for by staff attending the L2 training was predominantly a **mix** of primary and secondary (30 sessions) (Table 3.3)¹³.

Table 3.3 Age range of pupils catered for by L2 trainees

Age range	Number of sessions (N = 69)
Primary/5-11 years	19
Secondary/11-16/18	7
'Mixed' or 'all ages'	30
Early years	0
Missing information	13

Source: L2 training data alert forms.

L2 training sessions by numbers attending

Numbers expected to attend any given training session ranged from 10 - 60. Numbers actually attending ranged from 5 – 49. In total, we know that **over 1100 participants attended L2 training** before the end of March 2013. **This is well over (183%) the target number of 600.** (We are not able to give an exact figure because we do not know how many of the planned sessions for which we have no further information actually ran).

3.2.2 The demographic profile of L2 participants

The L2 training was designed for school staff working directly with one or more pupils with autism. Responses to demographic questions on the pre-training questionnaire (**N = 856**) provide a profile of those who attended¹⁴. The questions covered experience of working with/teaching one or more pupils on the autism spectrum, amount of previous training on the autism spectrum, job, gender, level of education, ethnicity, and age.

¹³ See Appendix 5 for charts for each training level.

¹⁴ Charts comparing participants' demographic characteristics by level of training are given in Appendix 4.

Experience:

- **83%** had **experience of working with/teaching one or more pupils on the autism spectrum.**

Previous training:

- **58%** had **not** previously attended the L1 AET training
- **54%** had **not** previously attended a one-day or longer training on autism

Job:

- **teaching assistants (54%)** were the largest groups¹⁵
 - teachers (25%)
 - SENCos (5%)
 - 'other' jobs (22%) were very varied
 - e.g. activity leader, catering, deputy headteacher, headteacher, mentor, nursery nurse, SEN governor, trainee teacher, volunteer.

Gender:

- **female (89%)**

Level of education

- **university degrees (39%)**
 - GCSE or equivalent qualifications (15%);
 - A/AS level or equivalent (12%);
 - HE below degree level (15%)
 - no qualifications (2%)
 - 'other' qualifications (18%)

Ethnicity:

- **'White-British' (88%)**
- other ethnicities represented by at least 1% of participants were:
 - 'White-Other group' (3%), Indian (3%), Black Caribbean (2%), and Pakistani (1%).
- a wide range of other ethnic groups were represented (each by <1%)

Age:

- Largest group were in their **40s (35%)**
 - 20s (23%); 30s (21%); 50s (18%); '60 or over' (2%); 16-19 (1%).

Perhaps the most striking features of this demographic profile are (a) that over half of the attendees (who gave a tick box answer to their job role) were teaching assistants, indicating how important this group are in terms of the education of pupils with autism; and (b) that

¹⁵ Respondents could tick more than one option although few did so.

even though 83% had experience of working with one or more pupils with autism, over half had previously not received training on autism lasting even one day. This underlines the gap which the AET L2 training has been designed to fill. It is also interesting that more than half had *not* previously attended the L1 training, indicating the hubs' success in marketing the L2 training beyond L1 participants.

3.2.3 *The quality assurance of L2 session delivery*

The quality assurance form designed for L1 (see Section 2. 2.3) was slightly adapted for L2 sessions. Five of these L2 quality assurance forms were completed and submitted to the evaluation team, all focused on the pilot delivery of the L2 materials in June and July 2012. Four hubs had at least one quality assurance visit, one had two such visits. No forms were received in relation to the three other hubs. Table 3.4 shows the frequencies for achievement of each quality statement.

The open comments by the AET observers provided a qualitative description of each session, highlighting strengths and any weaknesses. These were fed back verbally to the trainer/s on the day. Learning from these pilot sessions was also fed back by the trainers and the AET observers to the materials development team and incorporated in to the final version.

Table 3.4 L2 quality assurance monitoring

Aspect	Quality statement	Achieved
Punctuality	Started without undue delay.	4
	Ended on time.	5
Evaluation questionnaires	Time allocated to complete the questionnaires.	5
Facilities	Room big enough for size of group.	5
	Equipment good enough for DVD to work well.	4
	Equipment good enough for sound to be clear.	4
Content	AET-branded core material slides were used.	5
	All key messages were covered.	5
	More than one film clip was included.	5
	More than one case study was used.	5
	Practical activities were included.	3
	Attention was drawn to the participant handouts.	5
	Attention was drawn to the AET Standards and Competency framework.	3
	Attention was drawn to other relevant AET resources, such as Tools for Teachers.	5
Differentiation	Hub supplementary material was used.	4
	Additional 'voice' of parents/young people with autism was included.	4
	Training delivery was well-matched to audience.	5
Interaction	Trainer introduced him/herself to participants.	5
	Participants had opportunity to join in discussion.	5
	Trainer answered questions in friendly way.	5
	Trainer-participant dynamic was positive.	5
Practical application	Delegates given clear strategies to take away with them.	5

Source: L2 quality assurance monitoring forms. N = 5.

3.3 Evaluation data from the L2 pre- and post-training questionnaires

3.3.1 *Self-assessed confidence about having the knowledge, skills and confidence to support pupils with autism*

Before the delivery of the L2 training, all participants were asked to self-assess their confidence around knowledge, skills and confidence to support pupils on the autism spectrum on a scale of 1 ('strongly disagree') to 4 ('strongly agree'). Appendix 1 shows the L2 statements. After the training, participants were asked to complete the same self-assessment, having previously handed in their pre-course assessment (**N = 879**).

To analyse whether or not the post-course responses indicated a statistically significant difference from pre-course responses, a Self-assessment Total Score was calculated for all those who had answered at least 11 of the 13 statements (prorated for those who had completed fewer than 13). Pre- and post-course Self-assessment Total Scores (max. = 52) were calculated and the means compared using a paired *t*-test.

- This showed a **statistically highly significant rise in the mean Self-assessment Total Score after the L2 training** (Table 3.5).

Table 3.5 L2 Mean Self-assessment Total Score after the training (max. =52)

		Range	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
All	pre	13-52	33.14	6.07			
	post	26-52	39.88	5.67	22.64	791	<.001

This findings shows that the L2 training was successful in raising staff confidence.

3.3.2 *Views of the training*

Closed responses

After the training, participants were asked to indicate, on a five-point Likert-type scale running from 1 ('strongly disagree') to 5 ('strongly agree'), how much they agreed or disagreed with six statements about the training. The statements and results are shown in Table 3.6.

Table 3.6 Views about the L2 training (%)

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	1	2	3	4	5
a) I found this training worthwhile.	<1	2	14	33	51
b) This training has increased my knowledge about autism.	1	3	13	34	50
c) I think this training will help me to be more understanding of pupils with autism.	<1	3	14	32	51
d) The training provided me with guidelines for working with pupils on the autism spectrum that I expect that I will be able to use in my classroom practice.	<1	3	11	41	44
e) The training provided me with activities and ideas for working with pupils on the autism spectrum that I expect to be able to use in my classroom practice.	1	5	16	37	41
f) I feel that my confidence in working with pupils on the autism spectrum has been boosted by today's training.	1	3	15	42	40
g) I know where to find out more about autism.	<1	1	11	41	46

Source: L2 post-training questionnaire. *N* varied from 805 to 812.

Table 3.6 shows that views of the L2 training were mainly **positive**.

- For statements a-g, the average level of positive response (combining 'agree' and 'strongly agree' responses) was **83%**.

We used one-way analysis of variance (ANOVA) to explore whether or not the mean response (Likert scale: 1 'strongly disagree' to 5 'strongly agree') to the statement, 'I found this training worthwhile'¹⁶ varied by training hub¹⁷. For each hub, the mean was in the 'agree' to 'strongly agree' range ($M = 3.86$ to 4.53) but there were significant differences by hub at the $p < .05$ level, suggesting that the strength of agreement varied slightly by hub delivery. The mean response was significantly higher in Hubs 1, 2, 3, 6 and 7 compared to Hub 4 and in Hubs 1, 6 and 7 compared to Hub 5. However, the estimated effect size for this was small ($.102$). There were no other significant differences.

¹⁶ Statement (a), Table 3.6

¹⁷ Sheffe post hoc tests were then used to explore where differences, if any, lay i.e. between the hubs.

Open responses

There were 293 responses to the open question asking delegates to state what else they would have liked to have had in the training session. As with the pilot sessions, the most frequent comments relating to the **delivery** of the training were suggesting **more opportunities for delegates to be actively involved** through sharing experiences, raising examples from their own setting, group discussions, hands-on activities, and opportunities to look at and gain a feel for a range of **resources** that they might use. A minority view was that the course should have been longer to enable more active learning and time to take in the material. Another frequent suggestion was for **more 'take aways'** - handouts to take away from the session, for example, a handout of the presentation, of useful websites and reading, a factsheet of the various assessments and tools mentioned.

In terms of **content**, the most frequent suggestion was for **'more' of what was already there** (about 150 responses focused on this). The most common was for **more examples, case studies, ideas and resources for practical strategies to use in school**, including those relevant to the more severe end of the spectrum and to behaviour viewed as difficult to handle in a school environment. The remaining open responses **sought more or additional information** in relation to a wide variety of autism-related issues; for example, causes of autism, dealing with anxious parents, the functions of behaviour, how pupils with autism perceive the role of TAs, motor skills, transition to secondary school, use of deep pressure weighted blankets, how to adapt activities within PE and music, how to spot signs of autism, and so on. The range of these suggestions underlines the impossibility of covering everything a practitioner wants to know in a one-day session and highlights the importance of ensuring that trainees know where to find further information of high quality.

There were 313 responses to the second Level 2 open question, asking for additional thoughts or comments on the training session. **The largest number of comments (N = 228) were completely positive comments about the value and impact of the training.** Typical comments are included in Figure 3.1.

Figure 3.1 Illustrative positive comments about the L2 training, randomly selected

- 'Will definitely make pupil profiles and standardise a change symbol for the whole school.'
- Very informative. Have lots of ideas to take back to school.'
- Today has given me a great insight into autism and has made me feel much more confident.'
- This was a huge boost to my confidence in dealing with autistic spectrum. Pleased to know lots of this I am already doing.'
- This session was fantastic. I have learnt so much and feel so much more confident in my awareness to include students with autism in my class. Thank you!'
- The training was clear, understandable and enjoyable.'
- This training has underlined that this subject is not scary. Anything we can do to reduce problems will have a huge impact.'
- 'Lots to digest. Some very useful, practical ideas.'
- 'Interesting to hear other people's experiences and tactics.'
- 'I have already done a course similar about autism so had already had a lot of information but it was still good to refresh.'

Source: L2 post-course questionnaire, open responses.

The delegates praised the content, the high standard of the tutors' knowledge and delivery skills, and the immediate impact in terms of their own understanding, knowledge, confidence and willingness to try out new strategies and approaches. Additional comments almost all focused on the topics already mentioned in relation to the first open question.

3.3.3 Interest in further training on autism

Delegates were asked how strongly they agreed with the statement, 'I am interested in further training about autism.' Among the 798 who responded, the level of interest in further training was **high (85%)** - 32% 'agreed' and 53% strongly agreed' This shows that there is a strong market for the L3 AET training.

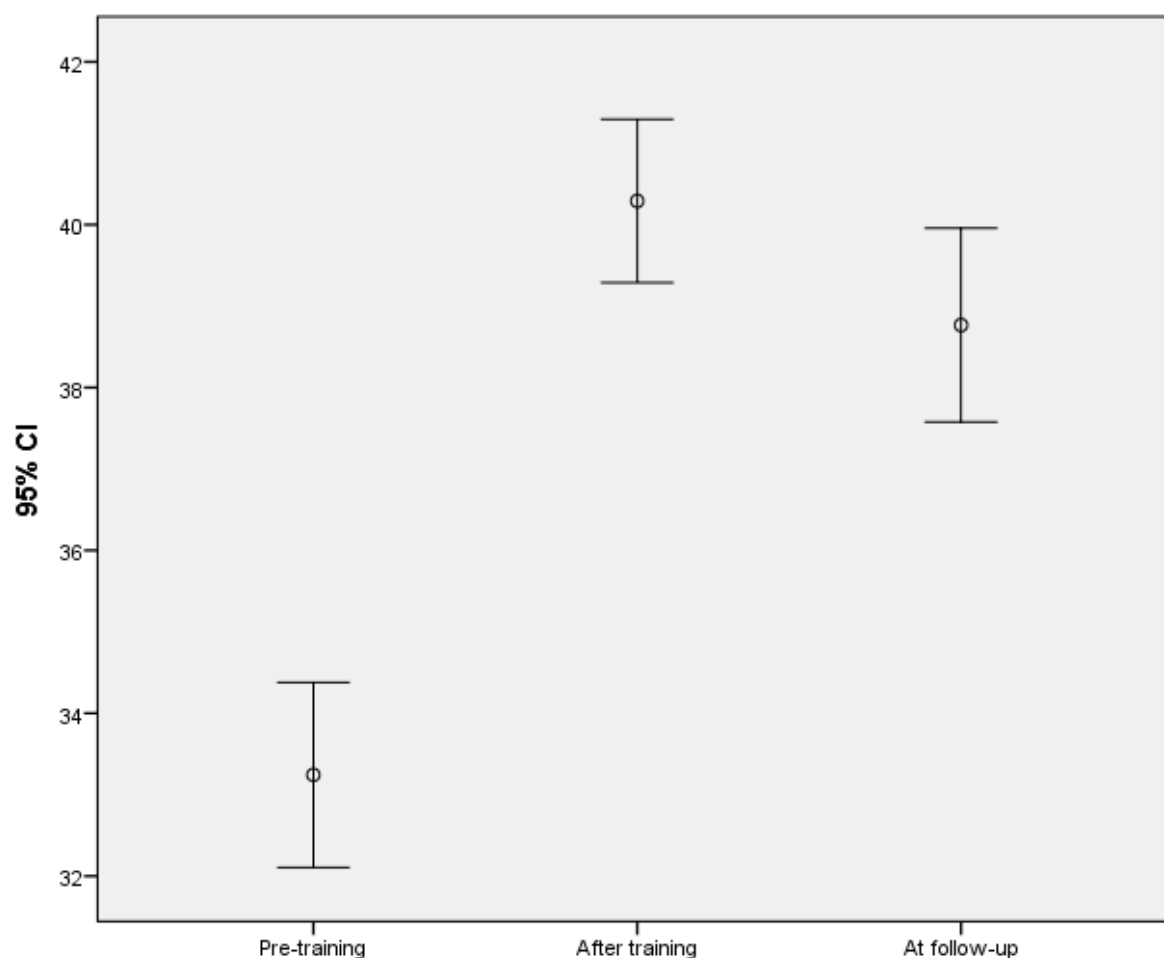
3.4 Evaluation data from L2 follow-up questionnaire

By 30 April 2013, there were **143 responses** to the L2 follow-up questionnaire, a 16% response rate. There were no significant differences between the follow-up responders and others, comparing self-assessed knowledge before or after the training. The follow-up responses can be taken as reasonably representative of the participants as a whole.

3.41 Self-assessed confidence about having the knowledge, skills and confidence to support pupils with autism

Figure 3.2 shows that, one to three months later, there was a statistically significant drop ($p < .01$) in the mean total self-assessment score relative to immediately after the training, but there remained a statistically highly significant improvement ($p < .001$) compared to pre-training. A drop in scores over time is to be expected. Figure 3.2 illustrates **the lasting impact of the training in significantly increasing participant's confidence** in having the knowledge, skills and understanding needed to support the education of pupils with autism.

Figure 3.2 Self-assessment total scores before, after and 1-3 months later



3.4.2 Views of the training

The follow-up questionnaire repeated the statements asking about views of the training (Table 3.6) adapted to the past tense (Table 3.7). We compared mean responses at post-training and follow-up. We found that the significant drop in mean self-assessed confidence scores at follow-up was also reflected in significantly reduced mean ratings of views about the training at follow-up, compared to immediately post-training (Table 3.7).

Table 3.7 Views of training at follow-up compared to post-training (scale of 1-5)

<i>Looking back, I now think the AET L2 training:</i>	Mean rating at post- training (<i>M</i>)	Mean rating at follow-up (<i>M</i>)
a) was worthwhile.	4.49	4.16
b) increased my knowledge about autism.	4.37	4.05
c) helped me to be more understanding of pupils with autism.	4.54	4.07
d) provided me with guidelines for working with pupils on the autism spectrum that I am able to use in my classroom practice	4.36	3.93
e) provided me with activities and ideas for working with pupils on the autism spectrum that I am able to use in my classroom practice.	4.25	3.66
f) boosted my confidence in working with pupils on the autism spectrum.	4.34	3.94

Source: Post-training and follow-up L2 questionnaires.

$p < .001$ in all cases.

A drop in mean ratings compared to post-training is what one would expect. It is a positive result that the mean ratings at follow-up are **all on the 'agree' side** of the scale of 1 'strongly disagree' to 5 'strongly agree'.

3.4.3 Impact of the training

Closed questions asked about the impact of the training on staff, on pupils and on parents. There was also an opportunity to add an open response detailing examples of changes in practice related to the training.

Impact on staff

Table 3.8 shows that the most immediate impact of the training for the largest majority of participants was a tailoring of their interaction with pupils to reduce anxiety and stress (80%).

Table 3.8 Impact of the L2 training on staff (%)

Statement	No	I plan to	Yes
As a result of the L2 training, I have improved at least one aspect of:			
a) the learning environment for pupils with autism.	19	27	54
b) the teaching approaches I use with pupils with autism.	8	24	67
c) communicating across the school setting about the needs of pupils on the autism spectrum.	17	28	54
d) peer group interaction for pupils with autism.	17	37	46
e) tailoring my interaction with pupils with autism to reduce anxiety and stress.	7	13	80

Source: L2 follow-up training questionnaire. *N* varied from 105 to 109.

Over half indicated that they had made changes to the learning environment (54%), to teaching approaches (67%), and to communicating across the school setting about the needs of pupils on the autism spectrum (54%). Just under half (46%) had improved at least one aspect of peer group interaction for pupils with autism. Those indicating they planned to implement such changes were much higher than those simply saying ‘no’.

The majority (58/84) of the *open answers* on the follow-up questionnaire, asking for impact of the L2 training on practice, focused on impact on staff. The examples detailed:

- changes internal to the trainee; that is, improved knowledge, confidence, understanding and/or more positive attitudes towards pupils with autism
- changes to practice
- spreading the learning from the training to colleagues
- the benefits when whole staff cohorts did the training together.

Examples of these are given in Boxes 3.1 to 3.4.

Box 3.1 Illustrative examples of internal changes in the trainee

‘Attitude change. I show more tolerance and listen to the pupils’ requirements.’

‘From the training, I received I have more knowledge on Autism and I am more aware of children with it. I also understand that the environment they work in can affect them.’

‘I am more confident that I can consider the needs of any autistic pupils in my class with respect to sensory needs and ways to lower anxiety during the lesson.’

Source: open responses on L2 follow-up questionnaire

The open responses about impact on practice included a wide range of changes, including:

- introducing the use of pupil profile and pupil passport
- improving the sensory environment e.g. de-cluttering, reducing glare
- introducing the use of timetable strategies and use of the ‘surprise’ symbol
- introducing use of visual prompts; of visual timetables
- allowing pupils more time to respond
- changes to support improved socialisation e.g. lunchtime activities, buddies
- conscious awareness of use of language and style of interaction when speaking to pupil with autism.

Box 3.2 gives some illustrative examples.

Box 3.2 Illustrative examples of changes to practice

‘Filled in the [pupil] profile with the help of the Autism Outreach Teacher. Also put together passport for other staff to have info about what helps pupil. This helped to identify areas that needed more attention etc. Stated to clear out quiet room clutter!’

‘Have made sure that I give more visual prompts about lessons and timetables and made sure I gave time for children to process their timetable and any changes that had been made.’

Source: open responses on L2 follow-up questionnaire

Other open responses were about spreading the learning from the training to others and of the benefits to practice when the whole staff train together.

Box 3.3 Illustrative example of spreading the learning from the training to colleagues

‘I have become an associate trainer in conjunction with the Communication/Autism Team and have delivered Level 1 training to teachers and support staff. I have talked with lunchtime supervisors who now appreciate the complex needs and support requirements of some of our pupils on the autistic spectrum.’

Source: open responses on L2 follow-up questionnaire

Box 3.4 Illustrative example of the benefits when whole staff cohorts did the training together

‘My own personal training in ASD and working with children on the spectrum was quite good before the Level 2 training. However, there were a couple of things I picked up and it served as a refresher. However, as the training was whole school I have found that as other professionals understanding is greater, it is better practice and easier to work together.’

Source: open responses on L2 follow-up questionnaire

Impact on pupils of changes made because of the L2 training

Trainees’ responses (Table 3.9) to closed questions about the impact on pupils of changes made because of the L2 training show the highest frequencies sitting in the middle of the range from 1 (‘strongly disagree’) to 5 (‘strongly agree’). The most frequently positive answers (4 or 5, equivalent to ‘agree’ and ‘strongly agree’) were given for one or more pupils seeming more confident in school (45%) and participating more in lessons (44%). A third of respondents were positive about an impact on educational performance (33%) and just over a fifth (22%) on improved school attendance.

Table 3.9 Staff report of impact on pupils of changes made because of the L2 training (%)

Statement	Strongly Disagree	1	2	3	4	5	Strongly Agree
As a result of changes made because of the L2 training, I know that one or more pupils with autism:							
a) have improved school attendance.	12	19	47	17	5		
b) seem more confident in school.	4	10	41	34	11		
c) participate more in lessons.	4	10	42	30	14		
d) have improved educational performance.	4	15	48	24	9		

Source: L2 follow-up training questionnaire. *N* varied from 97 to 100.

Open answers on the L2 follow-up questionnaire included a small number (*N* = 14) of case studies focusing on the impact on pupils of changes made because of the training. Examples of these are given in Boxes 3.5 to 3.9.

Box 3.5 Case study example of improved attendance

'I work with a child on the autistic spectrum who was not attending school full time (before Easter). He now attends school every day and is progressing daily, with the enthusiastic support I give him. He thrives on good support and plenty of praise. I set up a visual timetable daily for him, so he knows what he is doing during the course of the day. He has parts of the day which are structured and parts which he can make choices. I find that short sharp bursts of structured learning are better than lengthy ones. He enjoys outside activities, as well as drama and PE and these are all included in his weekly activities. He now responds well to adult instruction, and is less disruptive in the classroom.'

Source: open response on L2 follow-up questionnaire

Box 3.6 Case study example of improved confidence in school

‘The pupil I work with seems more confident and will ask if he needs help with daily tasks. We still need to prompt him with some things, but I feel he has improved with communicating with his peers and teachers. So I feel attending the AET Level 2 training has helped me be very supportive, understanding and a bit more confident in class. (I do still feel that the child I work with needs a one-to-one support in class, which will benefit him much more.)

Source: open response on L2 follow-up questionnaire

Box 3.7 Case study example of participating more in lessons

‘I am working with a girl who is currently being assessed by CAMHS for autism. I have been able to communicate with her in a way that better suits her understanding, giving thinking time after each question, only asking one thing at a time and repeating it back in a different way to ensure that she has fully understood. This has allowed for better communication between us and therefore less anxiety for her.’

Source: open response on L2 follow-up questionnaire

Box 3.8 Case study example of improved educational performance

‘I learned that an anxious child can work with less familiar adults if completely put in the picture beforehand. Because the child has trust in me, he can now go to a small group activity without my support with a teacher he would not have worked with before. Goes to group confidently and comes back really excited about it and explaining exactly what he has learnt so is definitely focused in the group.

Source: open response on L2 follow-up questionnaire

Boxes 3.5 to 3.8 are examples of the impacts described in the closed questions (Table 3.9). Box 3.9 is an example of the final type of impact described in the open answers –changes designed to support the social interactions of pupils with autism with their peers.

Box 3.9 Case study example of improved social interaction with peers

‘I now understand that people with autism are more likely to suffer from bullying, so this is an aspect of care I ensure never happens within my school, and the child with autism is never alone at break times and always has a friend with him.’

Source: open response on L2 follow-up questionnaire

Impact on parents of changes made because of the L2 training

Table 3.10 shows responses relating to the closed questions on impact on parents of changes in practice because of the L2 training. Over a quarter fall at the ‘disagree’ or ‘strongly disagree’ end of the scale from 1-5, about a half sit in the middle and between 22% and 28% are at the positive end (4 or 5) of ‘agree’ or ‘strongly agree’.

Table 3.10 Staff reports of impact on parents of changes made because of the L2 training (%)

Statement	Strongly Disagree				Strongly Agree
	1	2	3	4	5
As a result of changes made because of the L2 training, I know that parent/s of one or more pupils with autism have:					
a) seemed more confident about making their views known.	6	21	46	21	5
b) been involved in their child’s education.	6	21	51	14	8
c) shown more confidence in the teaching and learning in this school.	5	19	49	20	8

Source: L2 follow-up training questionnaire. *N* varied from 92 to 96.

Just two examples were given in open responses on the L2 follow-up questionnaire of impact on parents of changes made because of the training. These are given in Box 3.10 below.

Box 3.10 Examples of impact on parents of changes made because of the L2 training

‘Parents contact has increased; they now inform me even of little things as it can impact on their child during the day. This helps me alert other staff of the need for extra TLC, etc. Helps me plan the child's day and alleviate any necessary stress.’

‘Parents of a child with Aspergers and dyspraxia seem happier to consult with me and are acceptable of suggestions made to support their child at home. My knowledge has improved thus I am planning to introduce whole school ethos on supporting children with the use of key fobs and visual timetables. Encourage staff to build on strengths not weaknesses. Am confident to discuss children's needs and support staff in planning for them.’

Source: open responses on L2 follow-up questionnaire

Overall, the pattern of impact from the training conforms to the ‘direction of travel’ we hypothesised in our conceptualisation of the theory of intended change (Section 1.3). That is, that changes on staff were reported most frequently, on pupils next most often, and on parents least frequently.

3.5 Qualitative follow-up of a small sample of L2 participants, parents and pupils

To supplement the quantitative data from the questionnaires, some qualitative work was undertaken focusing on the outcomes and impact of the AET training hubs programme on school staff, pupils, and the parents/carers of pupils. All the school staff interviewed had undertaken the Level 1 training, most had undertaken the L2 training, while some had undertaken the L3 training, and more intended to do so. For those who had done all three levels, the impacts became entwined such that it was unusual for this to be separated out by level in their discourse; instead, we did a *post hoc* analysis and present here the material relating to individual staff (rather than groups of staff or whole school), plus the views of the small number of parents and pupils to whom we spoke.

3.5.1 School staff and the outcomes and impact of AET training

The material relating to individual staff is presented in relation to effects on:

- understanding
- knowledge
- skills
- confidence
- practice.

Understanding

The majority of the school staff interviewed highlighted the impact of the AET training on their understanding of autism. Interviewees explained that the training had helped them see how pupils on the autism spectrum might perceive and react in different situations, enabling staff to have a greater empathy for pupils. That understanding and empathy led to changes in approaches to children on the autism spectrum. For example, one teaching assistant (TA) explained how her improved understanding had led to a different perception of behaviour:

‘I think it [the AET training] gave me a greater understanding of the child with needs, and empathy towards that child [...] the fact that perhaps before the training I would have actually perhaps thought that the child was being naughty, being disobedient, not fitting in because they didn’t want to, not regarding the fact that perhaps they couldn’t, that they had barriers.’ (TA1)

This was also the case for another TA who worked closely with a pupil on the autism spectrum; the TA commented:

‘A lot of his actions and his behaviour I just thought, “I wonder why he’s doing that”, and, obviously, we were sort of in a position where we didn’t know whether to stop him from doing certain things, but then when I had the training I could sort of say, “Ah, he’s doing this because he needs more sensory input”, whereas before I didn’t really understand at all.’ (TA3)

Enhancing understanding and the implications of that for improved staff interaction with pupils was a common theme among the interviewees. There was a sense that the shift in understanding was an important development that underpinned changes in approach to children on the autism spectrum. For example, a SENCO explained how the AET training

brought to life the perceptions of children on the autism spectrum, and that, in turn, enabled the SENCO to be more empathic (Box 3.11).

Box 3.11 Understanding and empathic changes in approach to autism

‘I would say that [the training impacted] quite a lot. Understanding – you’re sort of aware of some of the issues, but the training was very good in making those come to life so that you could actually see what that looked like in a child, and also from the perspective of what we ask children to do sometimes, and the reasons why that might cause them difficulties [...] and being able to see the world a tiny, tiny little bit from their perspective. Some of the ways some children react is not unreasonable considering how they’re perceiving what you’re saying or what’s happening. I think I always understood the reason for the way they were behaving was because of their condition, but now I have a better understanding of why that’s happened, so it’s more, “Oh, yes, I can see that would make you feel like that”. It would make me feel like that if I thought in that way’. (SENCO1)

A similar example of how the AET training boosted understanding of school staff who already possessed some experience and knowledge of working with pupils on the autism spectrum was the case of a one-to-one tutor who worked with a number of pupils with autism. The tutor commented:

‘I suppose the social aspects and the difficulties that students will have with understanding language and understanding phrases and the ways you might say stuff to them, that, obviously, I didn’t realise before [the training]’. (ST1)

Knowledge

The AET training was seen to boost school staff knowledge in a wide range of areas; with interviewees identifying the following areas of knowledge relating to autism:

- language
- sensory issues
- anxiety
- face blindness
- spatial issues

- balance issues
- physical environment
- transition issues.

All the interviewees said that their knowledge about autism had improved in one or more of these areas. In most cases knowledge about these aspects of autism was totally new knowledge, and was therefore particularly revealing for staff. For example, one tutor who was (at the time of interview) working with eight young people who had a diagnosis of autism, and who typically had two thirds of his pupils diagnosed, highlighted how the training extended his knowledge of autism, developed his understanding, and changed his approach to working with those young people (see Box 3.12).

Box 3.12 AET training enhancing knowledge, changing thinking

‘One of the things that amazed me [in the training] was some of the physical attributes – I didn’t know that they had problems with their hearing, their awareness of their own physical body and space and these sort of things. So, some of it was, like, “Well, I never knew that”, and it was a real eye-opener. So you were suddenly much more aware of how these students are and how they react to things, so that affects your whole thinking, your whole view towards them, so it gives you a greater deal of empathy towards them, rather than just trying to understand where they’re coming at, and thinking “Well, most people just get a grip with this and they’ll be fine”, but you empathise with them because it’s another dimension to who they are, and how they behave, and how they react.’ (ST2)

This tutor was expressing a common reaction among interviewees regarding their acquisition of new knowledge through the AET training. There was also a recognition that the AET training built on experience and other training to build a more complete picture of autism. For example:

‘The trainer that we had was very good in sharing his experiences and there was a whole host of things that I didn’t know, like face-blindness and things like that, that I didn’t even know existed for children that have these difficulties [...] There was also like a consolidation of knowledge as well, that was useful. It’s like anything, isn’t it, if

you hear it enough times in enough different ways then it sort of all forms the jigsaw puzzle.’ (SENCO1)

Most of the interviewees had prior and/or current experience of working with children and young people on the autism spectrum, but they made it clear that experience alone was not sufficient to provide them with the type of knowledge and understanding that the AET training gave them.

Confidence

The additional knowledge gained through the AET training impacted directly on the levels of confidence that staff had in working with children and young people on the autism spectrum. That knowledge and the associated rise in skill levels led to enhanced confidence in staff willingness to try out new strategies and approaches with pupils on the autism spectrum. For example, a TA explained how the AET training was most valuable to her because it led to a boost to her confidence, which, in turn, enabled her to try new teaching and learning strategies (Box 3.13).

Box 3.13 Enhanced confidence as a precursor to changes in practice

‘Well, definitely the biggest thing that came out [of the training] was my confidence, because initially, about three years ago I did my Lead Practitioner training – which was a two day training programme – and it gave me a lot of knowledge, but I didn’t have the confidence, so I wasn’t very pushy within the role, and we’ve had a change of heads [of departments] as well. But when I did the recent [AET] training in November it was just, like, a button was switched on, and it was like, “Oh, yes”, and my confidence now to try new things, to make mistakes, to ask questions is fantastic. It really has improved.’ (TA2)

Another TA, commenting on the impact of both Level 1 and Level 2 training, linked the increase in her knowledge of autism to greater confidence which, in turn, encouraged the use of new strategies in the classroom. This TA was, in effect, describing the integrated nature of the AET training, in that the benefits of improved knowledge and boosted confidence interacted to provide better teaching and learning outcomes (Box 3.14).

Box 3.14 AET training boosting school staff knowledge and confidence

‘Shall we start with the knowledge from the training [...] which I found extremely useful. I think it is, if anything, that you needed to go on working with children with autism [...] within the classroom then that was just fantastic. I think the content of it, the aspects that they covered, I think that equipped me to come back into the classroom being more aware of the child and why he or she may have those behavioural traits. It also provided me with the confidence to carry out some of the strategies, if not all of them, that we’d been given and taught on the course, and maybe even to try things that in the past I might not have done, but because I’d been on the course, and felt that it equipped me with the knowledge to do so, I did that. As did other members of staff who had children in their classrooms that they felt confident to come, and they would ask me different questions or we would share learning.’ (TA1)

This account also provides an example of the spread of AET derived knowledge, and confidence, through a school.

Skills and Practice

The AET training provided staff with new knowledge concerning autism, which, in turn, impacted on the skills that staff possessed in relation to working with pupils on the autism spectrum. The interviewees provided a range of examples of the ways in which the AET training had impacted upon their practice. A composite list of practice changes is given below in Figure 3.3.

Figure 3.3 AET training changes in staff skills and practice in relation to autism

- Taking care with the use of language
- Being aware of literal interpretations of instructions
- Use of social stories
- Provision of quiet areas
- Provision of ear defenders
- Use of visual timetables
- Facilitating learning breaks
- Allowing pupils time to respond to questions
- Involving parents more to help build structures around a child's entire day
- Providing a child anxious about school assemblies with his own chair with his photograph on it
- Putting all the equipment a child needs in one place
- Analysing a child's behaviour and making adjustments to the classroom and lessons
- Ensuring children with autism are aware of exactly what is going to happen each school day
- Ensuring adaptations take place on a whole school basis
- Ensuring a long lead-in before change takes place, e.g., change in staff or rooms

Source: interviews with school staff

The AET training enabled staff to reflect on their pre-existing practice and make changes in a wide variety of areas, from verbal communication to physical environment. For instance, a SENCO gave an example of how she, and colleagues, took greater care in giving verbal instructions (Box 3.15).

Box 3.15 Taking care with verbal communication

'I think I'm much more careful about what I say and how I say it, so I'm very aware. For a tiny example, just before you rang two of my colleagues were creating a PowerPoint to do some plans and review work, and one of them said, "we need to make a list of the sort of things that float and the things that sink", and I said, "no, we need to make a list of things that float and we need to make *another* list of the things that sink". So, things like that, thinking about the semantics of your vocabulary, and the way that you communicate.' (SENCO1)

AET trained staff were also aware of the importance of the physical environment to children with autism. The interviewees explained how they had made a wide variety of changes to the physical context of teaching and learning. Changes included creating quiet areas and learning breaks to use them in, the provision of ear defenders, collecting all the equipment a child might need into one place, and clearly identifying a child's seat in assembly. For example, one tutor who worked with a number of young people with autism in a workshop setting explained how changes had been made for when machinery was being used (Box 3.16).

Box 3.16 Changes in the sensory environment

'In the workshops [...] when we set it up we bought a load of ear defenders and sometimes if we are using [the machines], and they're quite loud, I will say to them, "Put your ear defenders on, we're going to be using the machines", and they're fine because it just deadens the noise right down. They might even go and sit outside the workshop until we've finished, even with their ear defenders on. That was one of the sort of things that we're aware of [now]'. (ST2)

The AET training also brought about changed practice in terms of the classroom environment, with, for example a TA highlighting how she came to understand the need for a

personal timetable for children with autism, clear and pre-announced information about changes, and the need to take care over the design of the classroom (Box 3.17).

Box 3.17 Timetables, changes and classroom design

‘Using the advice and the strategies that we were taught on the [AET L2] course put into practice. For example, following a personal timetable, which in the past I may have thought “Well, there’s a classroom timetable on the wall, that’s sufficient. Why can’t they cope with that?”, whereas now I always have their own personal timetable for them regarding the fact that most of the children that I work with like routine and like having it to follow. So, if there is going to be a change to that routine, I prepare that child in advance if at all possible. The other part of the course taught us about the classroom environment, trying not to overload, and obviously I can’t be responsible [as a TA], well, it’s not my job to design the classroom as such [...] but in the past the teachers I have worked with have taken on board what I’ve said about it being overbearing for a child with autism coming into our classroom and we have toned it down to suit - certain areas of the classroom to make it far less busy.’ (TA1)

The school staff interviewees often mentioned that the AET training had alerted them to the degree of anxiety that can affect children and young people on the autism spectrum, and gave examples of practice changes that they had undertaken to reduce anxiety. Most frequently, these changes concerned the need to let pupils know as far in advance as possible that changes would take place. This involved transition from one year group to another to changes in daily routines. Other anxiety-reducing strategies were also mentioned, for example, the case of a boy who found school assemblies difficult. In this case, staff supported him by providing him with his own chair, complete with his photograph, and clear instructions about the pattern that assembly took (Box 3.18).

Box 3.18 Reducing pupil anxiety

‘One particular little boy that I work with found it very, very difficult to go into assembly. He doesn’t like the hall, he doesn’t like assembly. So what I’ve done is that he has his own chair with a picture of him on it so that he knows that he sits on that chair in assembly. And he likes singing the Happy Birthday song, and for us that does actually come at the end of the assembly, so to keep him in the assembly and keep him sitting and joining in and taking part, I say to him before we go in, “When the Happy Birthday song finishes then we can leave assembly”. Nine times out of ten he’s quite happy with that, and I will remind him that we haven’t sung the Happy Birthday song and that’s what we’re waiting for and he still attends the assemblies, he does come in, and he sits down.’
(TA2)

There was also evidence of AET training leading to a much more responsive approach in daily practice to the needs of children with autism. Examples of practice changes here included allowing children and young people on the autism spectrum time to respond to questions, and noting and analysing specific patterns of behaviour. For example, a teacher and TA working with a primary school boy with autism had both attended AET Level 2 training and as a result made closer observations of the boy’s behaviour. The observations and analysis led directly to changes in practice (Box 3.19).

Box 3.19 Being sensitive to behaviour, understanding the need for adapted practice

‘We actually adapted the whole lesson, didn’t we? Because it happened in PE. It was a few weeks ago, and he [the pupil] was spinning and we videoed it, and we looked at each other and we talked about it, and [name – another AET trained staff member] was able to explain that he was doing it because he was hyper-sensitive. It was during times when they used to have several activities and they take round their activities, and there was waiting time, so we said, “Let’s get rid of the waiting time”. And that really helped, so instead of rotating them round activities, we put a lot of things out and let them have a bit more freedom.’ (T2)

Throughout the interviews with school staff who had attended Level 1 and Level 2 training there was a sense that the training had led to greater discussion among staff about ASD, pupils and implications for teaching and learning. The impact of the training on individual staff members appears to have often enhanced staff understanding, knowledge and practice in general. Whole school training could have a big impact on provision – one SENCO from a school where all the staff, including the caretaker and office staff, attended the Level 2 training said:

‘Everybody now has got the same script, so when we as the SEN department go out into the school and talk about these things, they know what we are talking about, they know the interventions, they know why things are put in place now. Lots of the staff were quite emotional about it, I think because the trainer was so good and made it very personal, and I think it came home to a lot of staff, that could be their child, and then I think it renewed their ... well, it gave them a different perspective on the difficulties some children have in school because it is perfectly obvious that we’re actually trying to make a square peg fit into round holes a lot of the time, and what we need to do is make the round holes a bit squarer!’ (SENCO1)

3.5.2 *Impact on pupils – staff views*

Staff were able to provide specific examples of the benefit to their pupils of the AET training, in addition to giving assessments of general benefits. There were a range of good examples of benefits to pupils with autism. For example, a TA explained how the AET Level 1 and 2 training had given her new understanding and insight into autism and that in her one to one work with a young child in primary school she had seen improved progress and a reduction in the boy’s anxiety. She gave an example of how difficulties he had in focusing on a task were overcome when she allowed him to place a jigsaw puzzle (which he particularly liked doing) next to him, to reassure him that he would be able to do it once he had finished the first task (Box 3.20).

Box 3.20 Task completion and reassurance

‘Today, which is actually the same most days, we had phonics first and then we had spellings. We’d done our phonics and he removed the spellings as well [from his visual timetable] because he didn’t want to do the spellings and it was the jigsaws next which he really enjoys. After a little bit of a battle with me saying, “No, because we have to do the spellings”, he wasn’t budging, so I thought, ‘Right, we’ll see’ – so he went and got the jigsaws out of the cupboard, but he came back with the jigsaws, put spellings back on and got his spellings out. So I thought, “That’s a good breakthrough”, because although he wanted to bend the rule he thought, “This isn’t really what we do, we do it this way.’ (TA1)

Other examples included reductions in pupil anxiety by creating quiet areas, changing seating arrangements, having learning breaks, considering sounds/smells/visual influences. Interviewees also gave examples of improving pupil social skills following AET training induced changes by staff (Box 3.21).

Box 3.21 Improving social skills step by step

‘Within the classroom there are two children that I’m working with, both in Key Stage 1, on a Friday afternoon separately. From the training we learnt a lot about the social interaction groups and how to develop them and how to use them. I do one with both of these children just to improve their social interaction skills or understanding. And again the feedback I’m getting from the teachers - because I always ask teachers for feedback and that’s not for my own confidence that’s so I know what on a day-to-day basis is having an impact, I need to know what the impact is - it’s all very positive, that they’re using it, the children, in and around the classrooms (the one little boy in particular). We do a lot around sharing and friendships and they said that, although he isn’t like “Oh yes, I’ll share with you”, but they said that he stops now, it’s almost like he’s thinking and slowly, slowly I think I’m getting through, getting the message through.’ (TA2)

School staff interviewees provided clear examples of how AET training had changed staff behaviour and thinking which, in turn, had led to improved outcomes for the children.

SENCO1 explained that she had tried, prior to whole school AET training, to get classroom staff to support a pupil on the autism spectrum in managing behaviour, enabling the child to use a quiet space with a bean bag and blanket. But it was not until the AET training that staff actually used the resources (Box 3.22).

Box 3.22 AET training, changed practice, better experience for pupils

‘For instance if we think about a little girl in Year 2 who is the child that has the aggressive outbursts. The classroom has a special area where she can go and chill out when she’s feeling stressed. I had previously bought her a beanbag and a blanket but it hadn’t been used. That was brought out and that was used, the blanket was used.’

Question: Why do you think it was not used in the past?

‘I don’t think people could see the benefit of it. It’s hard to see, unless you know how these children feel. I think there was very much a feeling of ‘Why should she have it and not anybody else?’ and then I think the training changed that perception.’

Question: So it was a staff issue not a young person issue?

‘Yes it was really but she’s got the benefit of it.’

(SENCO1)

A similar example was provided by a one-to-one tutor, the majority of whose work is with young people with autism. The tutor explained how the Level 1 and 2 training had enabled him and other staff to develop effective relationships with a boy on the autism spectrum (Box 3.23).

Box 3.23 Building better relationships and improved outcomes for pupils

‘One lad [...] for a whole term we hardly saw him, any of us hardly saw him because he wouldn’t come down, he wouldn’t engage, he wouldn’t talk to us. He might have met us once and thought, “Yeah I quite like him” but he wouldn’t come down and we spent the first term just sitting talking to his mum. She’d bring him downstairs trying to get him up and we’d sort of, “Come and have a cup of coffee and have a natter for an hour”. But then gradually, because you were prepared to take him as he is and you weren’t phased by him, that sort of persistence as a company, as individuals, paid off and gradually he came down after Christmas and he was more willing to meet with us and talk to us. Now a lot of us will work with him at home or we might go out somewhere, we might just go and have a breakfast or nip up the road to McDonalds for a breakfast sort of thing but gradually it’s got him out and it’s got him engaging with people and because we have taken an interest in him as an individual and haven’t sort of judged him, he’s actually very responsive [...]’. (ST2)

Staff also said that, as a result of changes originating in the AET training, pupils with autism had benefited in overall terms. For example, one personal tutor said that,

‘I think they feel more comfortable with expressing themselves and coming to us, obviously that’s helped in terms of their level of engagement,’ (ST1).

There was also a clear sense that improved outcomes for pupils on the autism spectrum in, for example, reduced anxiety, enhanced learning, and developed social interaction, had led to a generally improved experience for the children and young people.

3.5.3 *Parents and the outcomes and impact of AET training*

Five parents were interviewed in order to gain their perceptions of how their children were supported in school, and of their sense of the impact of the AET training on school staff.

All five parents were aware that their children’s teachers had undertaken AET training, and gave accounts of their perceptions of the positive impact of the training. One parent, who herself had had autism training, gave an example of how, since her son’s school staff had undertaken AET Level 2 training, they had been able to use her son’s special interests more effectively (Box 3.24).

Box 3.24 A parent's perception of how AET training impacted on her child's schooling

'So I'd say that's one of the things that I've noticed has been recently different since the training. I know that the class teacher is now using more of [my son's] special interest to engage him in his work and it's having huge effects, very positive and he's now saying he enjoys literacy which is huge for him and the fact that he's engaged in the work, wanting to do it because it's centred around Mario Kart or whatever it happens to be at that time. Of course he's then producing work, concentrating on what he's doing and fully engaged in the activity.' (Parent 3)

Another parent provided an extensive range of examples of changes that she had seen in the provision for her son since his teaching staff had undertaken AET training. She noted that his teacher's awareness of autism and its implications had been enhanced (Box 3.25).

Box 3.25 A parent's view of enhanced understanding among school staff following AET training

'I think it's really increased her [the teacher's] awareness, not only herself but for all of her staff, of the kind of difficulties and challenges that my son faces and what children with autism face and I think that's an ongoing thing. I think that it starts with the training and I think that it's about getting to know that child and as an individual how autism affects them and their character and how it manifests because it's vastly different with all children but having that fundamental understanding is absolutely important.' (Parent 1)

Further, the same parent was able to identify a range of positive changes that had been made for her son (Box 3.26).

Box 3.26 AET origin improvements for a pupil with autism

‘There’s lots [of positive changes] actually. Everything from the visual resources that are in the classroom, it gives me enormous reassurance to know that [my son’s] got a visual timetable. I’m able to talk to them about the difficulties. I’ve been able to do that since day one, but there is a noticeable difference in terms of since the training’s begun and now when I go to them with concerns, they’re either already aware or they’ve tried to put something in place. There’s so many things in terms of the booklets that they’ve produced for things like the sensory equipment that he needs within the classroom, the chewy tube, the ear defenders, all of those things there’s much, much, much greater, heightened awareness of these things that he finds difficult and I think that without that training that wouldn’t have been possible. They would have put it maybe perhaps in place eventually but it would have taken much longer because the understanding wouldn’t have been there about what autism is and I think that’s really important.’ (Parent 1)

This parent explained that it was not just her son’s teacher that had benefited from the AET training, but her son’s TAs and other staff too. There had also been a positive impact for the parent in her dealings with the school:

‘I think they’ve become more and more accepting of me being able to speak and having to talk to them’ (Parent 1).

Further, she gave an example of how the school had, following the training, rapidly provided her son with his own quiet area in his classroom, something that her son was very pleased with (Box 3.27).

Box 3.27 A parent explains her son's response to a new special area for him in his classroom

'It [the special area] was all thought out and prepared and thought about in advance and I was so impressed. Because I was sitting at home worrying about other things because I don't think you do stop to be honest because there are so many different things, it can be quite complex. So when I came in and when she told me and she said, "Yes, he came into the classroom and we took him round the room and we asked him to point out what he thought was different". And he never stopped talking about it as we went in the car on the way home, "The classroom's different". And he brought me into the classroom at the end of the day and I went round with him and he was able to show me his area so, yeah, really important.' (Parent 1)

The parents valued responsive, understanding, informed schools and school staff who were willing to properly support their children. They had all experienced difficulties at various stages of their children's lives in getting the right sort of support. For example, Parent 2 gave an account of the difficulties her son had faced when he first went to school – a school that exhibited little understanding of autism. The parent said:

'The first year was a very, very difficult year and in fact I had a breakdown the first year because I kept getting called in the whole time. It was, 'We don't know why he's doing this. We don't know why he's doing that.' (Parent 2).

In the light of this type of experience, good, autism aware support was very welcome and highly valued. One parent gave examples of the ways in which her child's AET trained staff helped to reduce her child's anxiety levels. For instance, to help her child with a forthcoming school trip, the teaching staff appointed the child as the 'class photographer', having realised that allowing the child to take a camera and take photographs would aid anxiety reduction. Further, the subsequent display of the child's photographs helped include the child into the class (Box 3.28).

Box 3.28 A parent's account of an anxiety reduction strategy that helped her child

'Certainly the school use, and [child's name] responds extremely well to social stories and those sorts of things for things that are out of the ordinary for her such as school trips and things like this. So [name] seems to cope and that's wonderful because it's almost like the other children are told, "no cameras but [name] is going to bring a camera. She's going to be our photographer" but obviously that's purely for [her], it's nothing to do with anybody else, it's purely because it's a coping mechanism that if she can use that then they're there and they're not here with me and it's through that. But school deal with it in that sort of way so she doesn't feel as though it's being highlighted "[She] can't cope. She's got to bring a camera" [...] When we went to parents' evening there was a sign up saying the photographs were taken by the official classroom photographer [name] and so we made a big thing of that saying "[name], you had your photos..." and she was like "Yes I know and everybody wanted to look at them" so it makes it more that, although it's a coping strategy for her, they just tie it into school as well and naturally she's coping day to day with how they are just naturally running things.' (Parent 5)

The parents all valued good, continuous communication with school staff working with their children, and were all aware that it was important for them and the school staff that each was aware of the whole picture of a child's life. In this context, the daily diary approach was seen to be useful, with both teaching staff and parents maintaining daily written communication about the child.

It was clear that parents regarded good ASD support for their children as being crucial for them, their children, and the school. The parents were strongly supportive of whole school training and the AET approach. Box 3.29 gives an example of this.

Box 3.29 A parent welcomes the AET training

'It was really reassuring to know that the school that my son is in have gone through with all the staff having the Level 2 and I think three have had the Level 3, so that for me then means because he's not necessarily just with his TA, there are playtimes, there are lunchtimes, there are assembly times and these people aren't around and those situations that I've just mentioned are the ones where there's most anxiety and that's when he may possibly display more of his autism which then you think 'That's really reassuring that it's a blanket training throughout the school'.'

(Parent 3)

3.6 Summary

Reach

Level 2 was very successful in attracting well over the target number of participants.

- 69 Level 2 training sessions booked
- 58 known to have been delivered
- over 1100 participants in at least 20 local authorities

The participants represented a range of education settings.

- the majority were from mainstream settings (28 sessions)
 - mixed settings audiences were also frequent (25 sessions)
- the majority of audiences comprised those working in primary and secondary schools
- over half were teaching assistants
 - a wide range of other jobs were also represented, including a quarter who were teachers

Room in the market

The L2 one-day training tapped into an audience with previously unmet training needs.

- 83% had experience of working with pupils with autism, yet over half had previously not received training on autism lasting even one day
- more than half had not previously attended the L1 training, indicating the hubs' success in marketing the L2 training beyond L1 participants

Effectiveness

The L2 training met its aim of supporting staff who work directly with pupils with autism to develop good autism practice.

- a statistically highly significant rise in the mean Total Score for confidence in having the knowledge, understanding and skills to support pupils with autism after the training
- maintained at follow-up one to three months later
- responses about the training were very positive
- a large majority were interested in going on to the L3 training
- follow-up reports from staff about impact on practice were very positive, with the most frequently reported changes being:
 - for staff:
 - a tailoring of their interaction with pupils to reduce anxiety and stress
 - for pupils:
 - seeming more confident in school
 - participating more in lessons
 - for parents:
 - showing more confidence in the teaching and learning in the school.
- staff provided a range of good examples of the benefits to pupils with autism
- parents described how changes made because of the AET training had had a positive impact on their children

4 THE LEVEL 3 (L3) TRAINING

4.1 The L3 training materials

The L3 materials were aimed at staff in schools who already had some knowledge of autism. It was hoped L3 would attract those who had a lead role or responsibility for autism within their school or setting who might be able to influence systemic change at a level beyond an individual teacher's classroom. The structure followed that of Levels 1 and 2, including modules on the Individual Child, Building Relationships, Curriculum and Learning, and Enabling Environments, and added a fifth module on Evaluation of Practice. The Level 3 training was designed for delivery over two days, with a recommendation that there should be time in between the days to enable reflection. It aimed to:

- enhance participants' knowledge and understanding of good autism practice.
- help them to question and evaluate practice within their school or setting.
- provide them with tools to evaluate their own knowledge of autism, to audit staff training needs and to gain an overview of whole school practice.

4.2 Monitoring information on the L3 training

4.2.1 *The extent and reach of the L3 training*

Before end of March 2013, we know that **32 L3 training sessions were organised**: of these, we know that **22 took place**; that one was cancelled; for the remaining 9 no further information was received (Table 4.1). We report on training sessions by hub, date of training, participating local authority, school type, age range of pupils taught by participants, and number expected.

L3 training sessions by hub

As Table 4.1 shows, there was some variation in the number of L3 sessions delivered by hub but the overall number of sessions was small, reflecting the lower target number of delegates (200).

Table 4.1 L3 training sessions by hub (number)

Hub	Planned L2 sessions	Cancelled	No further information received	Sessions known to have been delivered
1	4	0	1	3
2	3	0	0	3
3	4	0	3	1
4	3	0	0	3
5	5	0	2	3
6	6	0	1	5
7	7	1	2	4
Total	32	1	9	22

Source: L3 training date alert form

L3 training sessions by term

The L3 training sessions were booked in from June 2012 (1) to final peak in March 2013 (11). Table 4.2 shows L3 sessions booked by term.

Table 4.2 L3 training sessions booked in by term

Term	Number of L3 sessions booked (N = 32)
June to July 2012	7
Sept to Dec 2012	8
Jan to March 2013	17

Source: L3 training date alert form.

The steep rise from the second term to the third term (Table 3.2) reflects the time needed for schools to plan ahead for staff to attend a two-day training event.

L3 training sessions by geographic area

Geographically, the L3 training reached schools in **at least 10 local authorities** (LAs) – ‘approximately’ because some were described loosely e.g. ‘various’ and the information was missing for some training sessions. This reach was achieved from 7 regional hubs.

L3 training sessions by school type or setting

The most frequent audience for the L3 training was **mixed** (mainstream and special school) Sessions for mainstream school staff only were a smaller proportion (6 sessions). (School type was missing for 6 sessions).

L3 training sessions by age range of pupils catered for by staff attending

The age range of pupils catered for by staff attending the L3 training was predominantly a **mix** of primary and secondary (30 sessions) (Table 4.3)¹⁸.

Table 4.3 Age range of pupils catered for by L3 trainees

Age range	Number of sessions (N = 32)
Primary/5-11 years	3
Secondary/11-16/18	0
'Mixed' or 'all ages'	24
Early years	0
Missing information	5

Source: L3 training date alert forms.

L3 training sessions by numbers attending

Numbers expected to attend any given training session ranged from 9 - 40. Numbers actually attending ranged from 4 – 30. In total, we know that **over 250 participants attended L3 training** before the end of March 2013. **This exceeds by a quarter (125%) the target number of 200 delegates.** (We are not able to give an exact figure because we do not know how many of the planned sessions for which we have no further information actually ran.)

4.2.2 The demographic profile of L3 participants

Responses to demographic questions on the L3 pre-training questionnaire (**N = 176**) provide a profile of those who attended¹⁹. The questions covered leadership in relation to the education of pupils on the autism spectrum, amount of previous training on the autism spectrum, job, gender, level of education, ethnicity, and age.

¹⁸ See Appendix 5 for a chart comparing each training level.

¹⁹ Charts comparing participants' demographic characteristics by level of training are given in Appendix 4.

Experience:

- **51%** had **held a leadership role** around the **education of pupils with autism**.

Previous training:

- **51%** had **attended** the L1 AET training
- **51%** had **attended** the L2 AET training
- **55%** had **attended** a two-day or longer training on autism

Job:

- **teaching assistants (46%)** were the largest groups²⁰
 - teachers (22%)
 - SENCos (18%)
 - 'other' jobs (37%) were very varied
 - e.g. advisory teacher, assistant headteacher, head of pastoral care, inclusion manager, lead ASD practitioner, parent, speech and language therapy assistant

Gender:

- **female (90%)**

Level of education

- **HE below degree level (45%)**
 - GCSE or equivalent qualifications (16%);
 - university degrees (11%)
 - A/AS level or equivalent (8%);
 - no qualifications (1%)
 - 'other' qualifications (19%)²¹

Ethnicity:

- **'White-British' (88%)**
- other ethnicities represented by at least 1% of participants were:
 - 'White-Other group' (2%), Black Caribbean (2%), Black African (1%), Indian (1%), Pakistani (1%), Bangladeshi (1%).
 - a wide range of other ethnic groups were represented (each by <1%)

Age:

- Largest group were in their **40s (42%)**
 - 20s (15%); 30s (51%); 50s (18%); '60 or over' (1%).

²⁰ Respondents could tick more than one option although few did so.

²¹ All the 'other' responses related to qualifications at Level 3 or above, up to Masters degrees.

Perhaps the most striking features of this demographic profile are (a) that the largest group (who gave a tick box answer to their job role) were teaching assistants, indicating how important this group are in terms of the education of pupils with autism even at this more advanced level; and (b) that just under a half (46%) had previously *not* received training on autism lasting two days. This underlines the gap which the AET L3 training has been designed to fill. It is also worth noting that half the delegates (51%) had previously attended L2 training, indicating that, as expected, this is a good recruitment ground for L3 delegates.

4.2.3 *The quality assurance of L3 session delivery*

The quality assurance form designed for L2 (see Section 2. 2.3) was slightly adapted for L3 sessions. Five of these L3 quality assurance forms were completed and submitted to the evaluation team, spanning delivery from July 2012 to January 2013. Four hubs had at least one quality assurance visit, one had two such visits. No forms were received in relation to the three other hubs. Table 4.4 shows the frequencies for achieving each quality statement.

Table 4.4 L3 quality assurance monitoring

Aspect	Quality statement	Achieved
Punctuality	Started without undue delay.	5
	Ended on time.	5
Evaluation questionnaires	Time allocated to complete the questionnaires.	4*
Facilities	Room big enough for size of group.	5
	Equipment good enough for DVD to work well.	5
	Equipment good enough for sound to be clear.	5
Content	AET-branded core material slides were used.	5
	All key messages were covered.	5
	More than one film clip was included.	5
	More than one case study was used.	4
	Practical activities were included.	5
	Attention was drawn to the participant handouts.	5
	Attention was drawn to the AET Standards and Competency framework.	4**
	Attention was drawn to other relevant AET resources, such as Tools for Teachers.	5
Differentiation	Hub supplementary material was used.	5
	Additional 'voice' of parents/young people with autism was included.	5
	Training delivery was well-matched to audience.	5
Interaction	Trainer introduced him/herself to participants.	5
	Participants had opportunity to join in discussion.	5
	Trainer answered questions in friendly way.	5
	Trainer-participant dynamic was positive.	5
Practical application	Delegates given clear strategies to take away with them.	5
	Delegates given time to plan the next steps arising from the training for their school/setting.	4

Source: L3 quality assurance monitoring forms. N = 5.

* - For one session, the evaluation questionnaires did not arrive in time.

** - In one session, the Standards were covered but not the Competency Framework.

The open comments by the AET observers provided a qualitative description of each session, highlighting strengths and any weaknesses. These were fed back verbally to the trainer/s on the day. Learning from the pilot sessions was also fed back by the trainers and the AET observers to the materials development team and incorporated into the final version of the L3 materials.

4.3 Evaluation data from L3 pre- and post-training questionnaires

4.3.1 *Self-assessed confidence about having the knowledge, skills and confidence to support the education of pupils with autism*

Before the delivery of the L3 training, all participants were asked to self-assess their confidence around knowledge, skills and confidence to support about pupils on the autism spectrum on a scale of 1 ('strongly disagree') to 4 ('strongly agree'). Appendix 2 shows the L3 statements. After the training, participants were asked to complete the same self-assessment (having previously handed in their pre-course assessment). There were **169** completed L3 post-course questionnaires.

To analyse whether or not the post-course responses indicated a statistically significant difference from pre-course responses, a Self-assessment Total Score was calculated for all those who had answered at least 15 of the 17 statements (pro-rated for those who had completed fewer than 15). Pre- and post-course Self-assessment Total Scores (max. = 68) were calculated and the means compared using a paired *t*-test.

- This showed a **statistically highly significant rise in the mean Self-assessment Total Score after the L3 training** (Table 4.5).

Table 4.5 L3 Mean Self-assessment Total Score after the training (max. =68)

		Range	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
All	pre	28-66	43.15	6.56			
	post	42-68	56.45	6.82	17.82	155	<.001

4.3.2 *Views of the training*

Closed responses

After the training, participants were asked to indicate, on a five-point Likert-type scale running from 1 ('strongly disagree') to 5 ('strongly agree'), how much they agreed or disagreed with seven statements about the training. The statements and results are shown in Table 4.6.

Table 4.6 Views about the L3 training (%)

Statement	Strongly Disagree					Strongly Agree
	1	2	3	4	5	
a) I found this training worthwhile.	0	0	2	17	81	
b) This training has increased my understanding of autism.	0	1	5	22	73	
c) Because of this training, I have a better understanding of good practice in autism education.	0	0	2	26	73	
d) I think this training will help me to be more effective as an advocate for pupils with autism in my setting..	0	0	4	19	76	
e) The training improved my knowledge of how to evaluate practice around the education of pupils on the autism spectrum in my setting.	0	0	3	34	63	
f) The training gave me the opportunity to try out some practical ways of improving practice around working with pupils on the autism spectrum.	0	1	9	33	56	
g) My confidence in relation to working with colleagues to support pupils on the autism spectrum has been boosted by this training.	0	0	5	29	66	

Source: L3 post-training questionnaire. *N* varied from 158 to 161.

Table 4.6 shows that views of the L3 training were almost all **extremely positive**.

- For statements a-g, the average level of positive response (combining 'agree' and 'strongly agree' responses) was **95.5%**.

We used one-way analysis of variance (ANOVA) to explore whether or not the mean response (Likert scale 1 'strongly disagree' to 5 'strongly agree') to the statement, 'I found this training worthwhile'²² varied by training hub²³. For each hub, the mean was in the 'agree' to 'strongly agree' range ($M = 4.71 - 4.95$). There were no significant differences by hub in the strength of agreement with this statement.

²² Statement (a), Table 4.6

²³ Sheffe post hoc tests were then used to explore where differences, if any, lay i.e. between the hubs.

Open responses

There were 48 responses to the question asking what, if anything, disappointed the L3 delegates. Of these, 19 said that 'nothing' disappointed them. Of the remaining responses (N = 29), the majority were **idiosyncratic** (one person only), for example, 'I wanted more detailed focus on individual points/standards unpicking what some things mean'. Three people would have liked more on Early Years and four wanted the length to be different (shorter or longer).

There were 137 responses to the question asking delegates to state what was most effective about the training course; each of them totally positive. Of these, 24 (18%) specifically mentioned the **National Standards** and 10 (7%) the **Competency Framework**.

Figure 4.1 Illustrative positive comments about the effectiveness of incorporating the National Autism Standards and the Competency Framework in the L3 training

- 'Gave me the opportunity to look at the Standards more closely and plan how to use the Standards in my school to improve practice around working with pupils on the autistic spectrum.'
- 'Going through the Standards. Good being able to use and focus on our own experiences.'
- 'Having an introduction to the Standards has really helped and has improved my confidence to suggest changes in school.'
- 'How to audit my competencies, those of my colleagues and the school environment.'
- 'It enabled me to know how to use the AET [competency] framework to improve practice in my setting.'
- 'It's given me the tools to evaluate and audit current practice in our schools, and provide a pathway to hopefully make our schools more autism friendly.'
- 'I did not know much about the audit, the Standards or the Competency Standards [Framework] so this course has been really beneficial to increase my knowledge.'
- 'The course has given me a clearer picture of how to use and work with the Standards. I feel more confident going back to school and talking to leadership, senior management team and staff about moving the school forward.'

Source: L3 post-course questionnaire, open responses.

Other themes (with randomly selected illustrative examples) concerning what was most effective about the L3 training were:

- increased knowledge and/or understanding of autism
 - e.g. 'A deeper understanding of the big reaching aspects of autism and how to really think about why a behaviour is happening and redirect it'
- increased confidence in self as a 'leader' of improvement in school
 - e.g. 'I feel more equipped to lead the support and provision for children with autism in my school. I have lots of ideas of what I would like to do to do this effectively.'
- appreciation of the tools and resources to use
 - e.g. 'Excellent range of resources given out that can be used to support schools, parents etc.'
- appreciation of the practical strategies suggested
 - e.g. 'Practical activities and hand-outs that I can use back at school.'
- learning with and from others
 - e.g. 'Sharing experiences/good practice with others. Able to develop links with other schools.'
- the high quality of the trainers
 - e.g. '[Name] inspired me and was very enthusiastic and he was also able to show us how autism affects both family and teachers.'
- appreciation of the video clips giving young people's views and of trainers who gave personal or other examples illuminating the parent and pupil perspectives
 - e.g. 'Videos of experiences of young people'.

4.3.3 Interest in further training on autism

Delegates were asked how strongly they agreed with the statement, 'I am interested in further training about autism.' Among the 158 who responded, the level of interest in further training was **very high (96%)** - 11% 'agreed' and 85% strongly agreed' This suggests that the L3 AET training has not quenched the thirst for further training, reflecting the tenor of a few of the open comments where suggestions for further training were mentioned; for example:

'This course should include a short 2-hour refresher course/update course option in 6-9 months.'

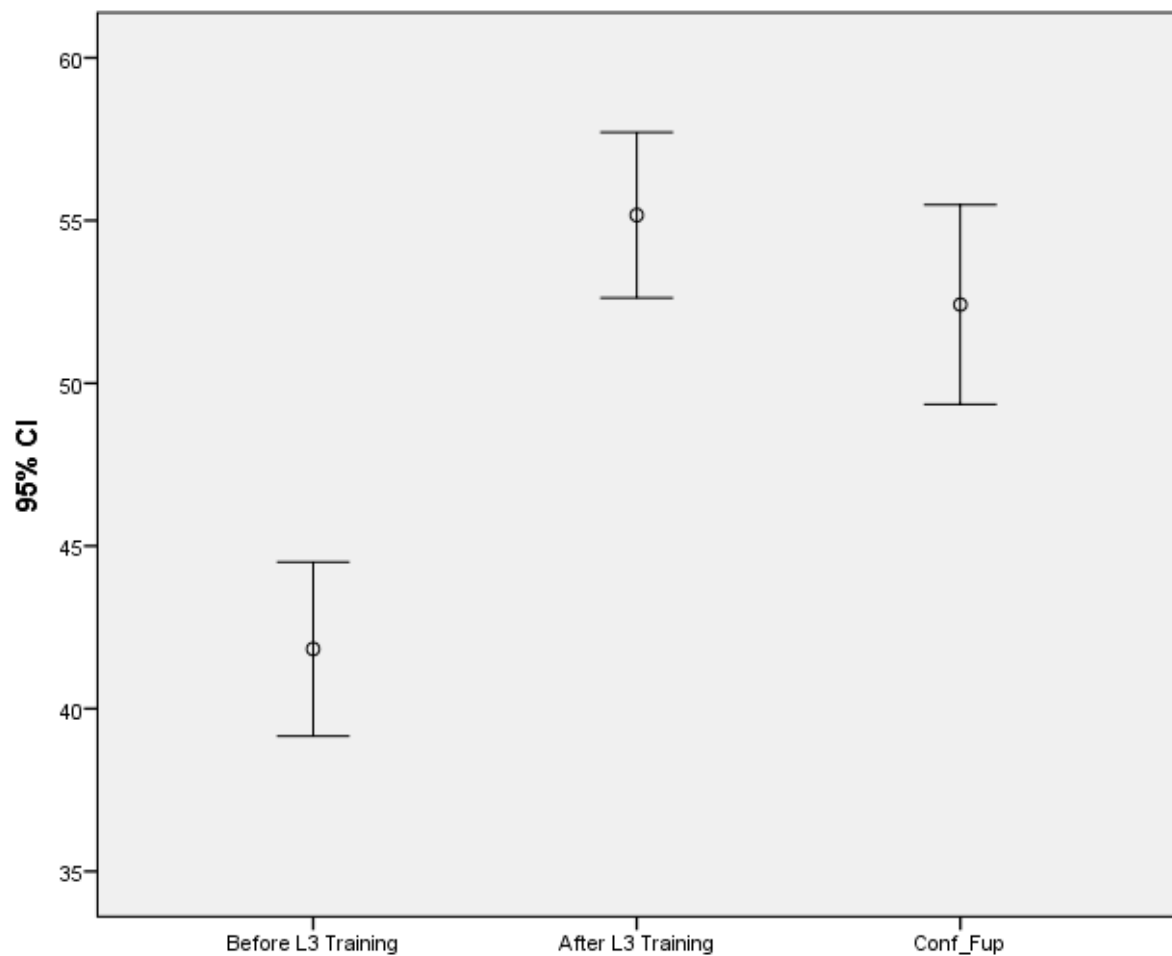
'I thought the course was very informative. It's left me feeling more confident ... and wanting to learn more. Develop/create Level 4. ☺ Thank you!'

4.4 Evaluation data from L3 follow-up questionnaire

By 30 April 2013, there were **45 responses** to the follow-up questionnaire, a 27% response rate (higher than for L2). There were no significant differences between the follow-up respondents and others, comparing mean self-assessed Total Score before or after the training. This suggests that those who returned follow-up questionnaires were reasonably representative of the participants as a whole.

Figure 4.2 shows that, one to three months later, there was a statistically significant drop ($p < .01$) in the mean self-assessment total score relative to immediately after the training, but there remained a statistically highly significant improvement ($p < .001$) compared to pre-training. A drop in scores over time is to be expected. Figure 4.2 illustrates **the lasting impact of the training in significantly increasing participants' confidence** in having the knowledge, skills and understanding needed to improve the education of pupils with autism through enhanced practice in their school or setting. However, **a word of caution is needed** because the number of matched cases for which we had pre-, post- and follow-up data at L3 was **only 29**. Conventionally, 30 is regarded as the minimum number of cases necessary to be reasonably confident of the accuracy of the statistical significance of the results. A further 15 of the follow-up respondents had been part of the L3 pilot after which the questionnaire was changed. The remaining case was someone who completed the post- but not the pre-training questionnaire and so could not be included in the pre- to post- to follow-up analysis either.

Figure 4.2 Comparing L3 Mean self-assessment total scores before, after and 1-3 months later



The pattern of a significant drop between post-training and follow-up seen in Figure 4.2 is matched by a significant drop in levels of agreement with the statements (b) to (e) and (g) on views about the training set out in Table 4.7

Table 4.7 Views about the L3 training 1-3 months later (%)

Statement*	Mean rating (<i>M</i>)		Significance (<i>p</i>)
	Post-training	follow-up	
a) I found this training worthwhile.	4.76	4.48	n.s.
b) This training has increased my understanding of autism.	4.60	4.16	< .05
c) Because of this training, I have a better understanding of good practice in autism education.	4.76	4.24	< .01
d) I think this training will help me to be more effective as an advocate for pupils with autism in my setting..	4.76	4.16	< .01
e) The training improved my knowledge of how to evaluate practice around the education of pupils on the autism spectrum in my setting.	4.52	4.08	< .05
f) The training gave me the opportunity to try out some practical ways of improving practice around working with pupils on the autism spectrum.	4.36	3.96	n.s.
g) My confidence in relation to working with colleagues to support pupils on the autism spectrum has been boosted by this training.	4.52	4.08	< .05

Source: Post- and follow-up L3 questionnaires.

* In the follow-up, the statements were amended to reflect the past tense and, where applicable, application in practice.

Table 4.7 also shows that there was no significant difference in the mean ratings for statements (a), 'I found this training worthwhile', and statement (f) about practical ways of improving practice, comparing immediately after the training to follow-up one to three months later.

4.4.3 Impact of the training

The follow-up questionnaire asked some closed questions about what happened in schools/settings as a result of the training for staff (Table 4.8), for pupils (Table 4.9) and for parents (Table 4.9). There was also an open question asking for examples of changes made because of the L3 training.

Impact on staff

As Table 4.8 shows, the most immediate effect on staff of the L3 training was being able to use learning to support colleagues working with pupils with autism (85%). Over half had also used pupil profiles for pupils with autism (56%) and were asking parents of pupils with autism for their views (66%). Just over a third (35%) reported that the AET Competency Framework was being used by one or more staff members and a further 51% planned that this would happen. Just over a quarter (26%) were using the AET National Standards to create action plans for their school/setting and a further two-thirds approximately (67%) planned to do so. Although this is a relatively small sample, these findings suggest that the take-up of the AET Standards and Competency Framework will be positive.

Table 4.8 **Impact of the L3 training on staff (%)**

Statement	No	We plan to	Yes
As a result of the L3 training:			
a) the AET National Standards are being used to create action plans for this school/setting.	7	67	26
b) the AET Competency Framework is being used by one or more staff members.	14	51	35
c) pupil profiles are now being used to identify strengths and challenges faced by pupils on the autism spectrum.	7	36	56
d) parents of pupils with autism are now asked for their views of their child's support in school.	5	30	66
e) I have been able to use what I have learned to support colleagues working with pupils with autism.	7	9	85

Source: L3 follow-up training questionnaire. *N* varied from 43 to 44.

Twelve of the 17 open responses focused on staff who had attended the L3 training going on to share their learning with other colleagues. For example:

'I have been able to do some training sessions with staff to improve their knowledge of Autism.'

'The Level 3 training and my M.Ed studies have enabled me to approach SLT [senior leadership team] with a view to setting up a forum comprising at least one member from each faculty of the mainstream staff to disseminate autism knowledge and good practice; I hope to roll this out next academic year.'

In four open comments, specific mention was made of use of the Standards or the Competency Framework of AET's Toolkit for Teachers (referred to in the training). These were:

'I have shared the Standards and what I learnt with other staff members who are now aware of how to support students with ASC more effectively.'

'I do not work in one setting but I advise many teachers in a London borough. I have passed on and explained the importance of the AET Standards and encouraged their use in three schools so far. They have all been keen to embrace them and have already used some of the resources and strategies the Standards suggest to help particular children. This has led to an increase in understanding by staff and more appreciation of the child's needs for staff to adapt their own behaviour and actions.'

I have been pushing for all staff in my department (an Autism base within a mainstream secondary school) to self-evaluate by using the competencies, and I know that a number have started this process. We are also keen to run the Level 2 for all staffing the department.

These examples show how the knowledge and understanding from the L3 training can be cascaded to others, not only in the trainees' own school/setting but, dependent on their role, also in other schools/settings.

Reported impact on pupils of changes made because of the L3 training

The majority of responses to closed questions about impact on pupils because of the training fell in the middle or above of a five-point scale from 'strongly disagree' to 'strongly agree' (Table 4.9).

Table 4.9 Staff report of impact on pupils of changes made because of the L3 training (%)

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5
As a result of changes made because of the L3 training, I know that one or more pupils with autism:					
a) have improved school attendance.	12	10	51	17	10
b) seem more confident in school.	2	12	36	36	14
c) participate more in lessons.	0	12	38	36	14
d) have improved educational performance.	0	10	45	33	12

Source: L3 follow-up training questionnaire. *N* varied from 41 to 42.

In the open responses section of the questionnaire, five examples were given that focused on pupils. These included changes to practice that had a positive effect on pupils (Box 4.1)

Just under half of the responses to each of the closed questions about impact on parents were in the middle of the scale of 1-5, 'strongly disagree' to 'strongly agree' (Table 4.10).

Table 4.10 Staff reports of impact on parents of changes made because of the L3 training (%)

Statement	Strongly Disagree 1	2	3	4	Strongly Agree 5
As a result of changes made because of the L2 training, I know that parent/s of one or more pupils with autism have:					
a) seemed more confident about making their views known.	5	12	49	22	12
b) been involved in their child's education.	5	15	46	22	12
c) shown more confidence in the teaching and learning in this school.	5	10	48	25	13

Source: L3 follow-up training questionnaire. *N* varied from 40 to 41.

Box 4.1 Examples of changes to practice with a positive effect on pupils

Changes to classroom environment

‘Setting up of a workstation for one child has given him more focus within the classroom setting and he is much happier when he knows what is expected from him during the day. Also the setting up of a behaviour rewards chart with clear and achievable expectations has greatly improved the behaviour of another both at home and school.’

‘With a particular student in mind I have seen that the knowledge and understanding gained from the course has helped me to engage more fully with the student in a workshop setting, enabling me to help them cope in the daily sounds of a D and T workshop and with the need to follow Health and safety guidelines, in addition to helping them find ways to engage in the course, which has had the knock-on effect of helping them to increase their level of aspiration and confidence.’

Working together to improve participation and reduce anxiety

‘A child in a Year 1 class does not like change or new people in his environment and takes a long time to get used to different people. The school now employs sports coaches to provide PPA cover and the child was refusing to come to school on the particular day. I sent home photographs of the sports coaches with some information that mum and dad could discuss and share with the child. We spent time in school, myself, the Class Teacher, the head teacher and the TA, talking to the child and getting him to identify what he enjoys doing in PE. He eventually spoke to the PE Coach and was able to say what he liked doing. Only today, he participated for the first time without any anxiety.’

Developing pupil voice

‘Working on ‘pupil voice’. We have developed a method for children’s input into their school reports and their annual reviews. I have also negotiated for a representative of the Resource Base to be on the School Council.’

Source: open responses on L3 follow-up questionnaire

Impact on parents of changes made because of the L3 training

One open comment focused on the impact on a parent of an autistic child who had attended the training (Box 4.2). In this case, when applied at home, what had been learned during the training had had a transformative effect on the mother-son relationship.

Box 4.2 One parent's account of the changes she made at home because of Level 3 training

'I came to the training as a parent with an autistic child. I hold a NVQ3 in children's care and learning development and completed lot of special needs courses at [name of school]. Coming to autism training was very special for me. The training helped me to build a very good relationship with my child. For example, before coming to the training I was not patient with my child specially when helping to do activities, homework or the way I would speak to him. Now I change the way I communicate with him. My child is very happy to speak to me. Before the training, my child was struggling with his handwriting. He was panicking when he had to do the handwriting homework at home because he knew that I will start shouting to him to get it right. After the training, I became more patient with him. I started praising him and giving reward after his homework. Now, his handwriting has improved a lot that even his teacher asked me how it happened. He is more confident in doing thing like choosing what he wants for dinner, how to brush his teeth, how to use the shower and speak to me when he needs something. I value him more than I did before. I am confident to plan activities for him with his carer and help the teacher when she needed to know something about him. I am now able to give advice to other parents who are struggling with their autistic children.'

Source: open responses on L3 follow-up questionnaire

4.5 Qualitative follow-up of a small sample of L3 participants

As described in Section 3.4, those interviewed, because of having indicated willingness to do so on a L3 follow-up questionnaire, did not separate out the effects of the different levels of AET training they had attended. It was therefore our decision to present some material in Chapter 3 which we regarded as relevant to the aims of the Level 2 training and other

material here that relates to the aims of the Level 3 training, that is, reported outcomes and impact affecting more than one teacher in one classroom.

4.5.1 Whole school training

The AET Level 3 training was aimed at school staff with leadership and training roles, with the intention of cascading knowledge about autism through whole school teams. The Level 3 training was not, however, exclusively for leadership and/or training staff and other staff did attend. As was the case with both Level 1 and Level 2, there could be a wider impact from individuals undertaking the training even when not in leadership positions as they passed on knowledge and advice and came to be seen as staff to go to for information on autism. The value of a school engaging with all three levels of training was highlighted by SENCO1, who explained that the combination of levels gave flexibility and depth of knowledge (Box 4.3).

Box 4.3 Three levels of training, staff flexibility and whole school benefits

‘I think it is a benefit [engaging with all levels] to the school when you are talking about staff moving from class to class, it gives you more choice doesn’t it with your TAs and your teachers because every member of staff has received that training so the benefit for the school is we won’t have pockets of expertise, if you like. We’ve also got three lead practitioners who are doing Level 3, so we’ve got that extra help there as well.’
(SENCO1)

Similarly, another SENCO explained how the different levels of AET training were being used to build effective autism spectrum support in the school. Interestingly, there was a recognition that teaching hierarchies within school settings had the potential to militate against school improvement but that the expert status that the AET training conferred could counter this (Box 4.4).

Box 4.4 Level 3 and expertise

'We have a training programme for lead practitioners in autism in the school which the [LA autism] team who we work with have put into school. [Name] and [Name] are lead practitioners; they're qualified Lead Practitioners for autism already and they're Teaching Assistants. That was how the plan was, to introduce a level of expertise in amongst the people that are providing support for children, and then that would be cascaded down to other Teaching Assistants and they would be accessible to give advice. Then it was this year - we have a meeting every year with the [LA autism] team where they have their ideas of how they want to push things forward in the school - and this year they decided that what they actually needed was a teacher that was...they also wanted the Level 2s to become Level 3s so they were upgrading that training and then that means that the Level 3s are qualified, if you like, to train other staff but they also saw that they needed a way into teachers as well because, unfortunately [...] in some schools it can be that if you're a Teaching Assistant you can't really influence how a teacher works. so what they realised was that there was a gap there and we need a teacher to take on the responsibility and be a Level 3 practitioner as well so I'm doing that as well with [Names]. We're currently doing that, aren't we, we're about $\frac{3}{4}$ of the way through that. So that's like an outside influence into the school development.' (SENCO2)

This SENCO and her school were proceeding with an autism-related improvement plan that would see all school staff (including lunchtime supervisors and reception staff) trained in Level 1, all classroom staff trained in Level 2, and the lead practitioners and the SENCO trained in Level 3. Not only was this seen to be part of what was expected to be a continuous upgrading of provision for children on the autism spectrum, but it was also believed that the AET training had more general applicability to all pupils in the school.

4.5.2 General applicability

School staff were aware that the AET training had wider applicability than teaching, learning and support in relation to autism. SENCO3 commented that:

‘I’m also interested in the fact that, OK, lots of aspects of the training are for children on the autism spectrum; however many of those strategies can be used with other children, and that’s [also] my interest’ (SENCO3).

This was the case too for a TA, who noted:

‘I think it [AET training] helped myself regarding all children to be honest, because not all children are the same, and they aren’t all going to fit into one bracket that we expect them too’ (TA1).

Another example came from a class teacher who said that the strategies she had learned through AET training had very wide applicability, even within her own family (Box 4.5).

Box 4.5 The general applicability of AET training

‘Put it this way, I’ve used some of the strategies on my step-daughter and there’s absolutely nothing wrong with her! I think a lot of the strategies that we put in place with the students with autism can be used all the way across the board with everyone because I personally feel that we’ve all got those little elements of we don’t like change, we don’t cope well with change and it’s something that people don’t do in general, they’re adaptable but they’re not comfortable with it so I’ve found (and it may not have meant to be the case) but I’ve found that the training has helped me across the board with all my other students as well.’ (T1)

4.6 Summary

Reach

The Level 3 training was very successful in attracting well over the target number of trainees.

- 33 training sessions booked
- 22 known to have been delivered
- over 250 participants drawn from at least 10 local authorities

Participants were drawn from a range of settings.

- the most frequent audience was mixed (mainstream and special school)

Room in the market

The L3 two-day training tapped into an audience with previously unmet training needs.

- 45% had previously not received training on autism lasting two days or longer
- 49% had not previously attended the L2 training, indicating the hubs' success in marketing the L3 training beyond L2 participants
- 49% had not previously attended the L1 training, indicating the hubs' success in marketing the L3 training beyond L1 participants

The level of interest in further training was very high (96%)

- suggests that the L3 AET training has not quenched the thirst for further training

Effectiveness

The Level 3 training met its aims:

- enhancing participants' knowledge and understanding of good autism practice
 - statistically highly significant rise in mean Total Score relating to self-assessed confidence in having the knowledge, understanding and skills to support the education of pupils with autism
 - maintained at follow-up one to three months later
- helping them question and evaluate practice within their own school/setting
 - 85% used what they had learned to support colleagues working with pupils with autism
 - 66% were now asking parents for their views of their child's support in school
 - 56% had introduced pupil profiles
- provide them with tools to evaluate their own knowledge of autism, to audit staff training needs, and to gain an overview of whole school practice
 - 35% were using the Competency Framework in their school
 - another 51% planned to do so
 - 26% were using the National Standards to create action plans for their school
 - another 67% planned to do so

Views of the L3 training were almost all positive (96%).

5 Conclusions

We conceptualised the success measures to be evaluated as a direction of intended travel over time. This was underpinned by our hypothesised theory of change: that the content, design and delivery of the training hubs programme training could be expected to make a positive difference to participants' attitudes, knowledge, skills and confidence. This, in turn, could be expected to make a positive difference to pupils' desire to attend school, to participate while there, and thus to improve their educational performance. Positive difference for staff and pupils could be expected to make a positive difference to how involved and/or how confident parents of pupils with autism felt with regard to their son or daughter's school.

The evaluation of the AET training hubs programme, L1, L2 and L3, has provided strong quantitative and qualitative evidence that staff confidence was enhanced by the training. Staff reported that the training stimulated them to make positive changes in teaching and support practice for children and young people on the autism spectrum. Level 3 participants reported promising levels of early take-up of the Competency Framework and the National Standards; and with larger numbers planning to do this in the future. Staff perceptions were positive about the impact on pupils with autism of changes to practice, stimulated by learning from the AET training. Pupil confidence in teaching and learning, increased participation and attendance, and improved educational performance were all reported. Finally, staff perceptions regarding parental involvement, and confidence in provision for their children were also positive. Parents interviewed corroborated staff perceptions of positive changes to practice and for pupils and parents.

In sum, the AET training hubs programme was highly effective. It surpassed its delivery targets at each training level. There was evidence to support each of its success criteria, with the strongest evidence relating to the impact on staff confidence about their knowledge, understanding and skills to support the education of pupils with autism. Although attribution for outcomes beyond the impact on trainees has to be shared with the individuals and the environment in which they worked, by delivering L1 as a whole school training, and by offering a whole school option at L2 and L3, the AET training hubs programme helped to facilitate the creation of an ethos and environment in which positive change could take place. Further research could be usefully focused on following through to find hard evidence of improved educational attainment of pupils on the autism spectrum.

6 Recommendations

On the basis of the evaluation evidence presented in this report, we make the following recommendations to the AET.

1. That every endeavour is made to ensure the continuation and expansion of the AET hubs training programme, with an overall aim of eventually reaching across the whole of England and of covering all phases of education.
2. That the take-up of the competency framework and of the national standards is monitored and, if necessary, supported by further promotion and guidance on how to use them.
3. That the quality assurance process is made more systematic to ensure consistent coverage of all hubs at each training level, and that a clear 'support and challenge' process is developed in the event that this should prove necessary for the maintenance of high quality standards over time and the increasing volume of training.
4. That further guidance is given to hub leads around the targeting of the L3 training at those in leadership positions within schools i.e. those with the authority and influence to make system-level changes happen in practice.
5. That trainers in all hubs are encouraged to emulate, where appropriate, the successful practice in one hub of involving a young adult with autism in the training, as this was received very positively by participants, especially at Level 1. Schools could then also be encouraged to involve adult/s with autism in their staff development around autism.

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Appendix 1 The L2 self-assessment statements

- 1a. I am confident that I can identify strengths and challenges faced by pupils on the autism spectrum in a range of social, educational & environmental contexts.
- 1b. I am aware of the sensory and balance difficulties a pupil on the autism spectrum might have.
- 1c. I am confident that I could support an autism spectrum pupil's sensory and balance related needs.
- 1d. I am confident that I know how best to support a pupil on the autism spectrum in their learning.
- 1e. I feel that I am able to effectively communicate planning about a pupil's needs across a whole school setting.
- 1f. I am confident that I know the range of people to ask about the individual needs of each pupil on the autism spectrum that I work with.
- 1g. I am confident that I know how to enable supportive peer group interactions for pupils on the autism spectrum.
- 1h. I understand the importance of special interests in engaging pupils on the autism spectrum in learning.
- 1i. I am confident that I know what effects environment might have on a pupil on the autism spectrum.
- 1j. I am confident that I know how to adapt my classroom & the school environment to meet the needs of a pupil on the autism spectrum.
- 1k. I am confident that I can tailor my teaching and interactions with pupils on the autism spectrum so as to reduce anxiety and stress.
- 1l. I am confident that I understand the degrees of differentiation that may be necessary to support the progress of a pupil on the autism spectrum.
- 1m. I feel that my current practice in the classroom is well attuned to the needs of pupils on the autism spectrum.

Appendix 2 The L3 self-assessment statements

- 1.1a. I know how to create a pupil profile identifying the strengths and challenges faced by pupils on the autism spectrum.
- 1.1b. I am able to support colleagues to understand the implications of autism for pupils they teach.
- 1.1c. I am aware of the implications for teaching of different theories around understanding autism.
- 1.1d. I know a range of strategies to suggest to colleagues about how best to support a pupil on the autism spectrum in their learning.
- 1.2a. I know how to enable parents to express their views on how their child is supported in school.
- 1.2b. I know a range of strategies to use to prevent bullying of pupils with autism.
- 1.3a. I have a good understanding of how different activities and/or subject areas might present challenges for pupils on the autism spectrum.
- 1.3b. I am confident that I know a range of ways to support colleagues to make adjustments to engage pupils on the autism spectrum in learning.
- 1.3c. I know where to look for teaching and learning resources to support the engagement of pupils on the autism spectrum in learning.
- 1.4a I am confident that I know how to audit any environment in my setting for the effects it might have on specific pupils on the autism spectrum.
- 1.4b I know a range of ways that any environment in my setting can be adapted to meet the specific needs of individual pupils on the autism spectrum.
- 1.4c. I know how to support staff to think analytically about reasons underlying the behaviours they find challenging in pupils with autism.
- 1.4d I know where to find resources to support staff to make adjustments to reduce stresses on pupils with autism.
- 1.4e I know enough to be able to guide colleagues on how to improve communication with pupils with autism.
- 1.5a I am confident that I know how to audit staff knowledge about the autism spectrum.
- 1.5b I know how to use the AET National Standards in Autism Education to create an action plan for my school setting.
- 1.5c I understand how to use the AET Competency Framework to assess my own skills and knowledge.

Appendix 3 More on the evaluation methods

The **monitoring system**, used for each training level, was that each hub used an alert form to send details of planned training events to the evaluation team administrator at CEDAR. This triggered the dispatch of a pack of pre- and post-training questionnaires for participants. After the training, the trainer sent the completed questionnaires with a cover sheet back to CEDAR for analysis. It was not possible to ensure 100% compliance with this system but feedback from hub leads indicated that when training sessions were not logged via this system it was because of human error, or the opportunity to deliver a session at very short notice, rather than deliberate non-compliance.

A **quality assurance form** was devised by the evaluation team, agreed by all programme partners, to create a consistent format for senior staff from AET to use in reporting their assessment of the quality of training being delivered as part of the programme. AET representatives chose to attend particular training sessions, largely governed by the ability to fit this in to their other work commitments. The form covered six domains: punctuality, evaluation questionnaires, facilities, content, differentiation, and interaction. Each area was linked to two to seven quality statements. The AET representative used his or her judgement to decide if the quality statement was achieved or not, and then added open comments on the back of the form.

The **Level 1** evaluation focused on mainly quantitative data from specially created questionnaires completed before and after the training. In addition, a small sample of follow-up feedback was elicited. For each hub five training sessions were chosen as a random sample stratified by phase of education. Hub leads were asked to provide the contact details of the person who arranged that training session. This person was then contacted and asked for contact details for at least one person who attended the L1 training. A short (4 questions only) telephone interview was then arranged or, if the person preferred, they could e-mail their responses.

The main focus of the **Level 2** evaluation was quantitative data collected via pre- and post-training paper questionnaires, followed-up one to three months later with an online questionnaire. Feedback on draft versions of these three questionnaires was received from programme partners and incorporated into the final versions. All training participants who agreed and provided an e-mail address were included in the follow-up. In January 2013 and again in April 2013, e-mails containing a link to the L2 follow-up questionnaire were sent to

all L2 participants from the previous term. This meant that at least one month and up to three months had elapsed since their training.

The follow-up questionnaire included a question asking if the person would be willing to be contacted to discuss the possibility of an interview or school visit. Those who responded positively to this by a cut-off date in early February 2013 were contacted and telephone interviews and a small number of school visits arranged. Twenty-two face-to-face semi-structured interviews were conducted, all being recorded, with permission, and fully transcribed. Of the 22, 14 interviews were with a range of school staff - three SENCOs (one of whom was also a deputy head teacher), three lead practitioner teaching assistants (TAs), two teachers, two tutors, and one transport co-ordinator. Four school visits enabled interviews with five mothers and three pupils with autism. The three children who were interviewed were young, and so did not provide 'data' directly relevant to the evaluation, the fact that they were willing to talk to a stranger introduced by their teacher may be regarded as a positive finding in itself.

The **Level 3 evaluation** followed the same pattern as for Level 2. Quantitative data collected via pre- and post-training paper questionnaires, followed up one to three months later with an online questionnaire. Feedback on draft versions of these three questionnaires was received from programme partners incorporated into the final versions. All training participants who agreed and provided an e-mail address were included in the follow-up. The follow-up questionnaire included a question asking if the person would be willing to be contacted to discuss the possibility of an interview. The small number who responded positively to this by a cut-off date in early February were the same people who had offered this for Level 2, with one addition. That one additional person was interviewed over the telephone.

Appendix 4 Comparing participants' demographic characteristics by level of training

Chart 1 shows that the majority (80%) of the L1 and L2 trainees had experience of working with or teaching at least one pupil with autism. The 'previous experience' question asked of L3 participants was different – Chart 1 also shows that half the trainees had experience of a leadership role around the education of pupils with autism.

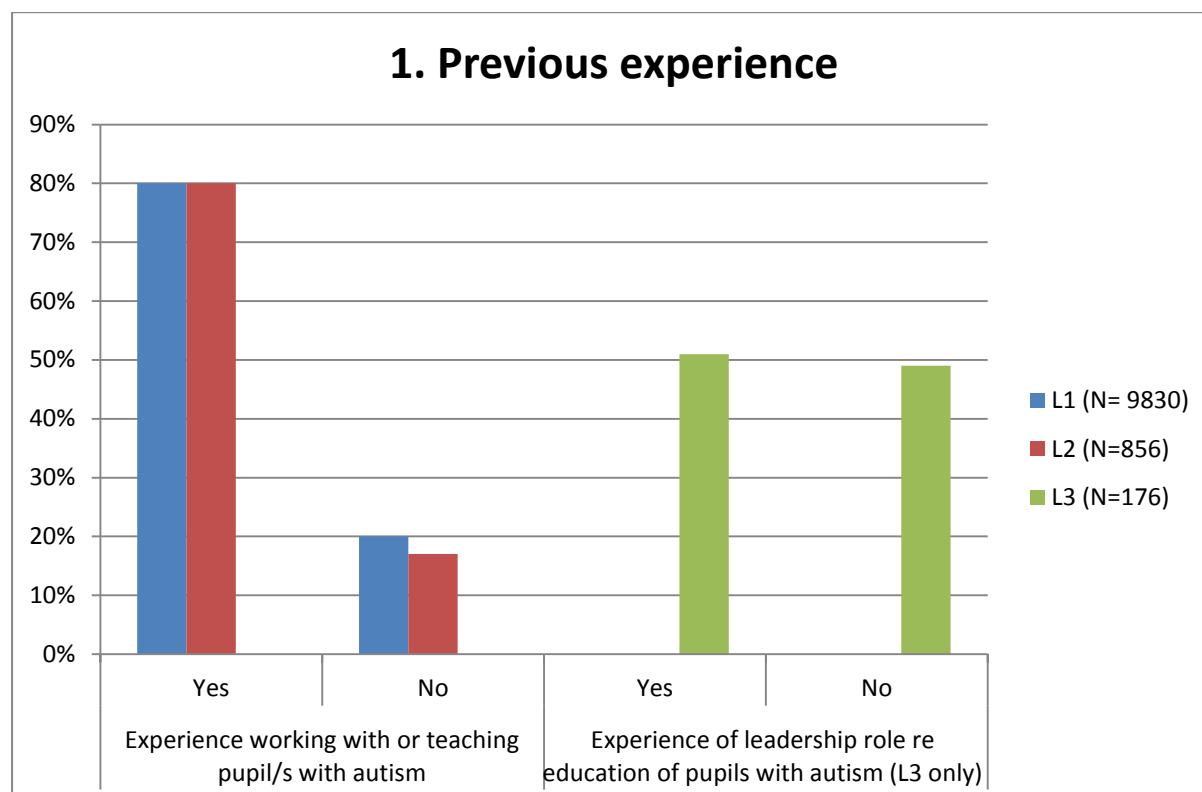
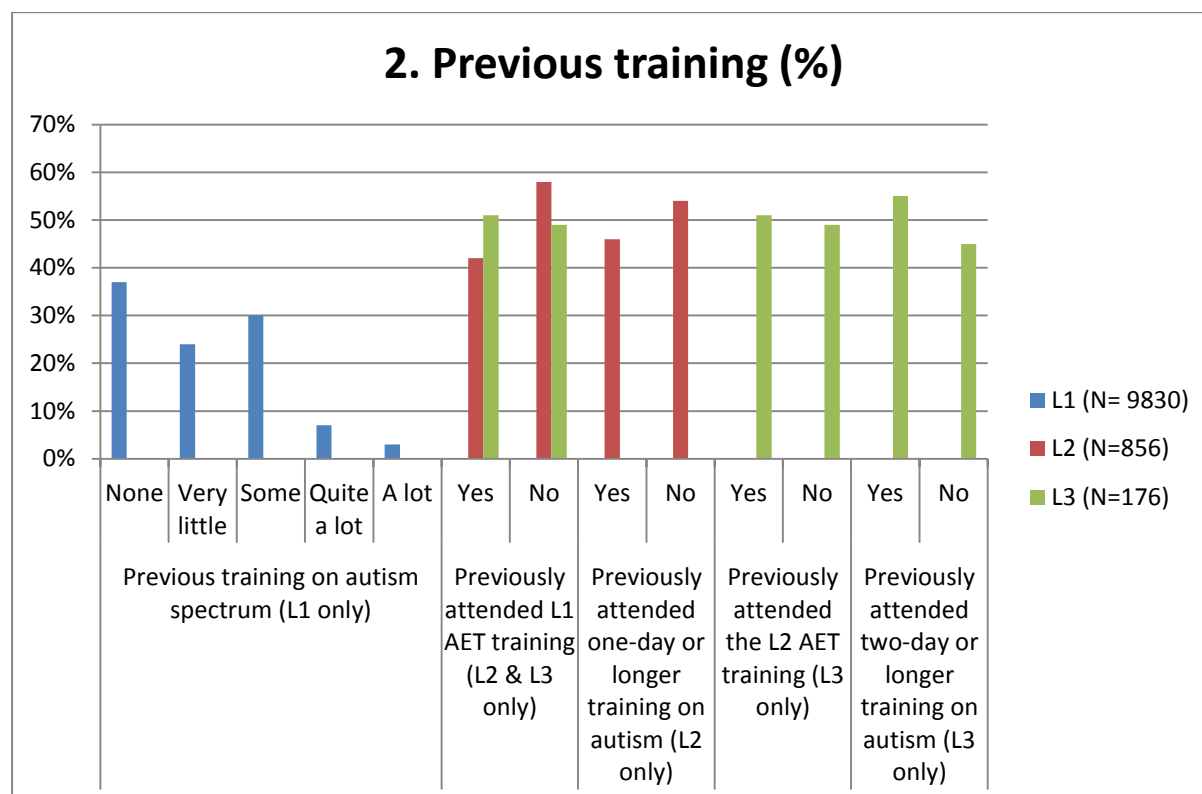


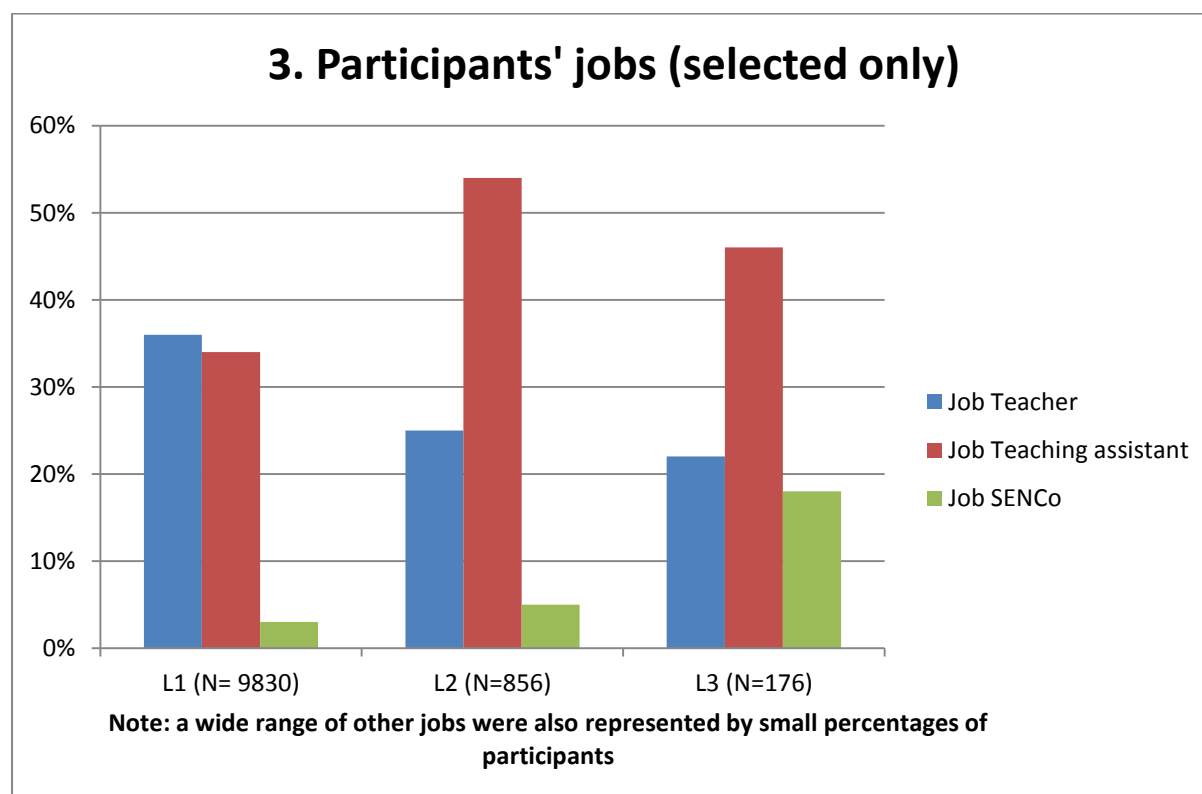
Chart 2 shows the questions and answers relating to previous training in relation to the three levels of training. A minority of L1 trainees had had no previous training on the autism spectrum. Those who had had training most frequently indicated that they had 'very little' or 'some'.



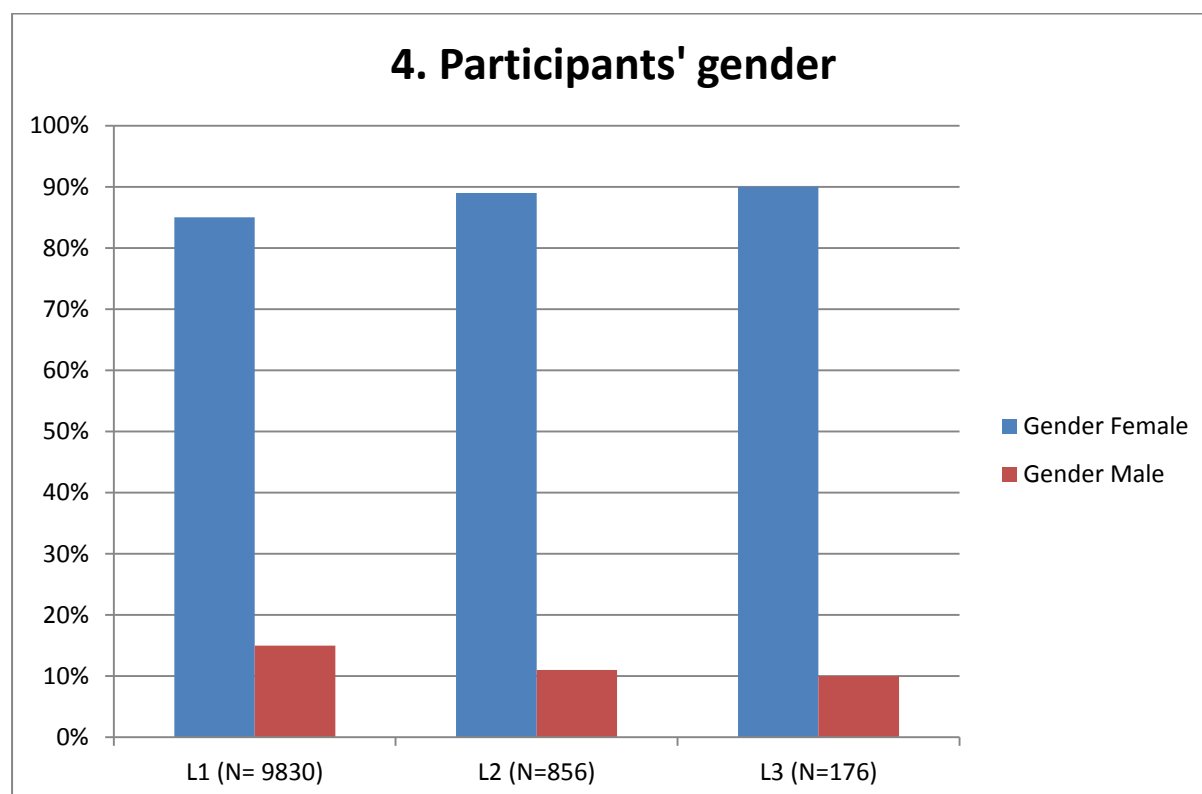
Level 2 participants were less likely than Level 3 participants to have attended the L1 training. A minority of L2 participants had previously attended a one-day or longer course on autism.

Similar percentages of Level 3 participants had attended L1 and L2 training. A small majority had previously attended two-day or longer training on autism.

Chart 3 shows that the most frequently ticked job role for L1 was 'teacher', but for both L2 and L3, the most frequently ticked job role was 'teaching assistant'. More SENCoS attended L2, than L1 and L3 than L2.



As Chart 4 shows, across all three training levels, female participants far outnumbered male participants. This mirrors a gender imbalance in the teaching workforce and especially in the teaching assistant workforce (DfE, 2013²⁴).



²⁴ In Nov 2012, 73% of teachers were female and 92% of teaching assistants. (DfE, 2013. *Statistical First Release. School Workforce in England: November 2012*. SFR 15/2013.)

Chart 5 shows that, at all three levels of training, a minority of participants ticked that a university degree was their highest level of education. At L3, the biggest single group was those with higher education below degree level.

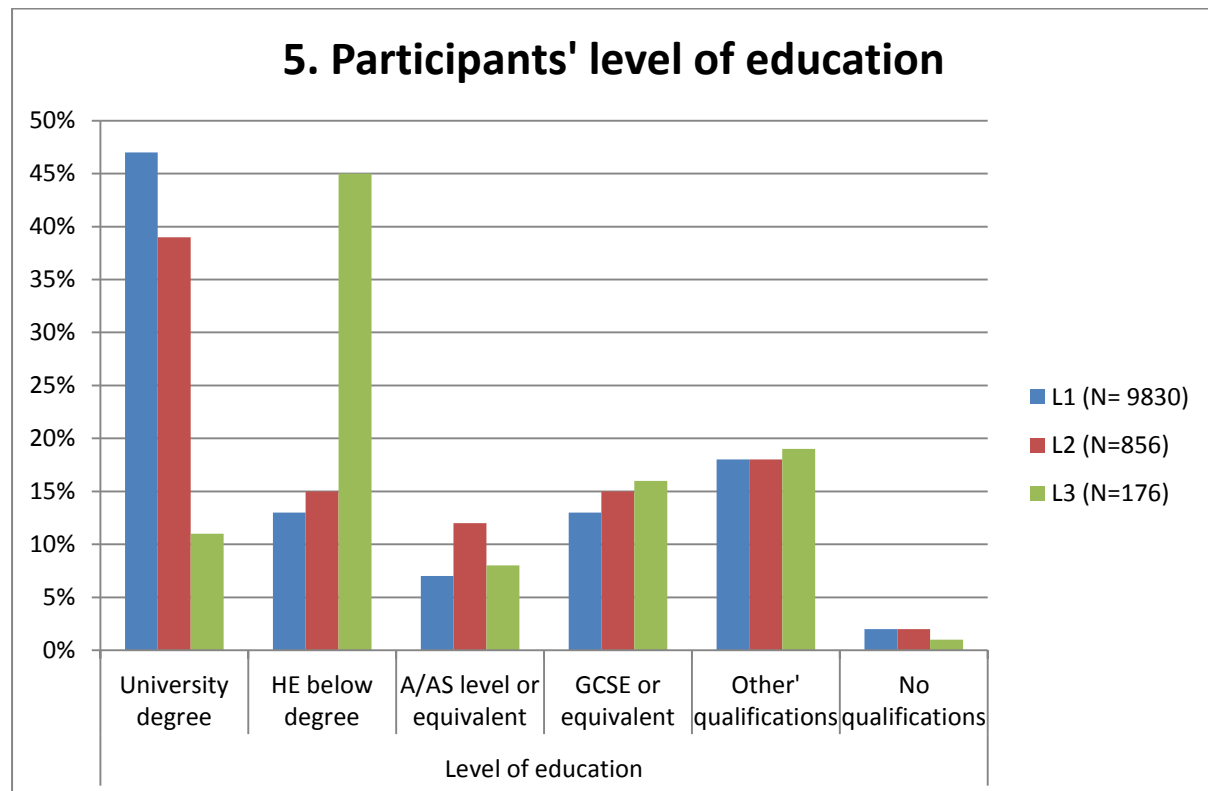
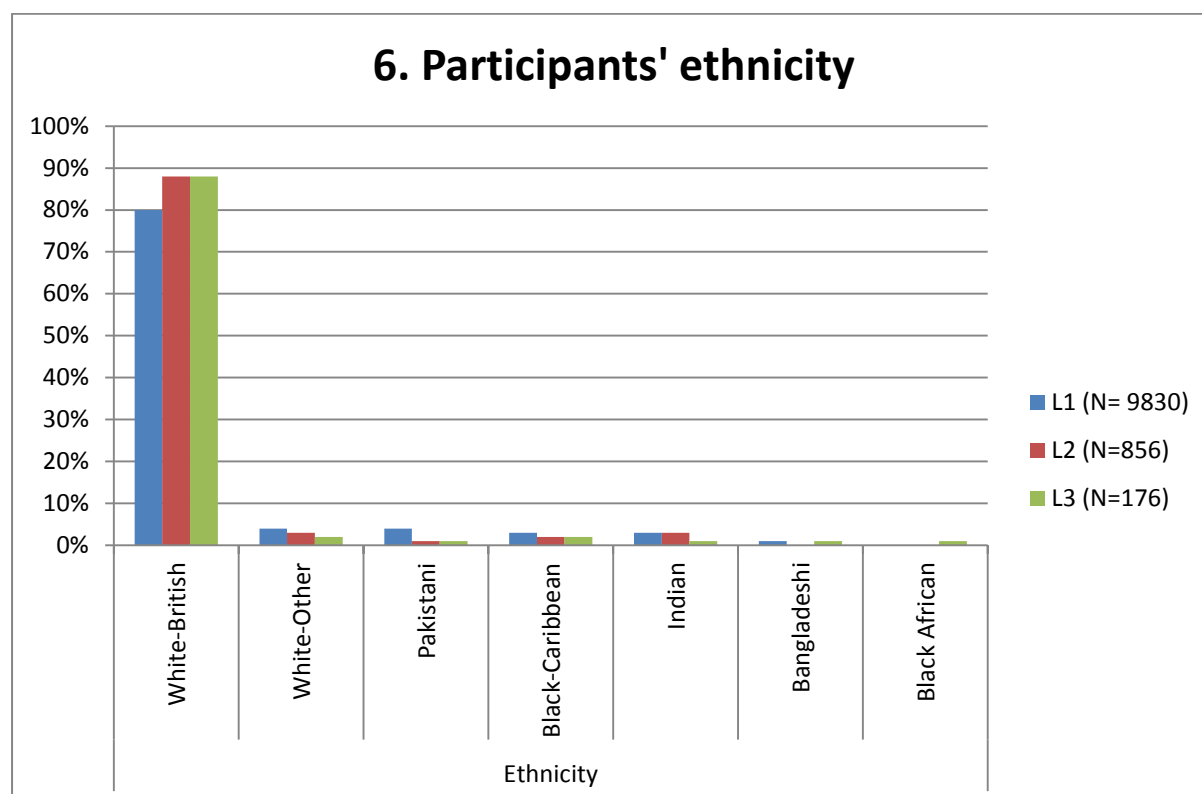
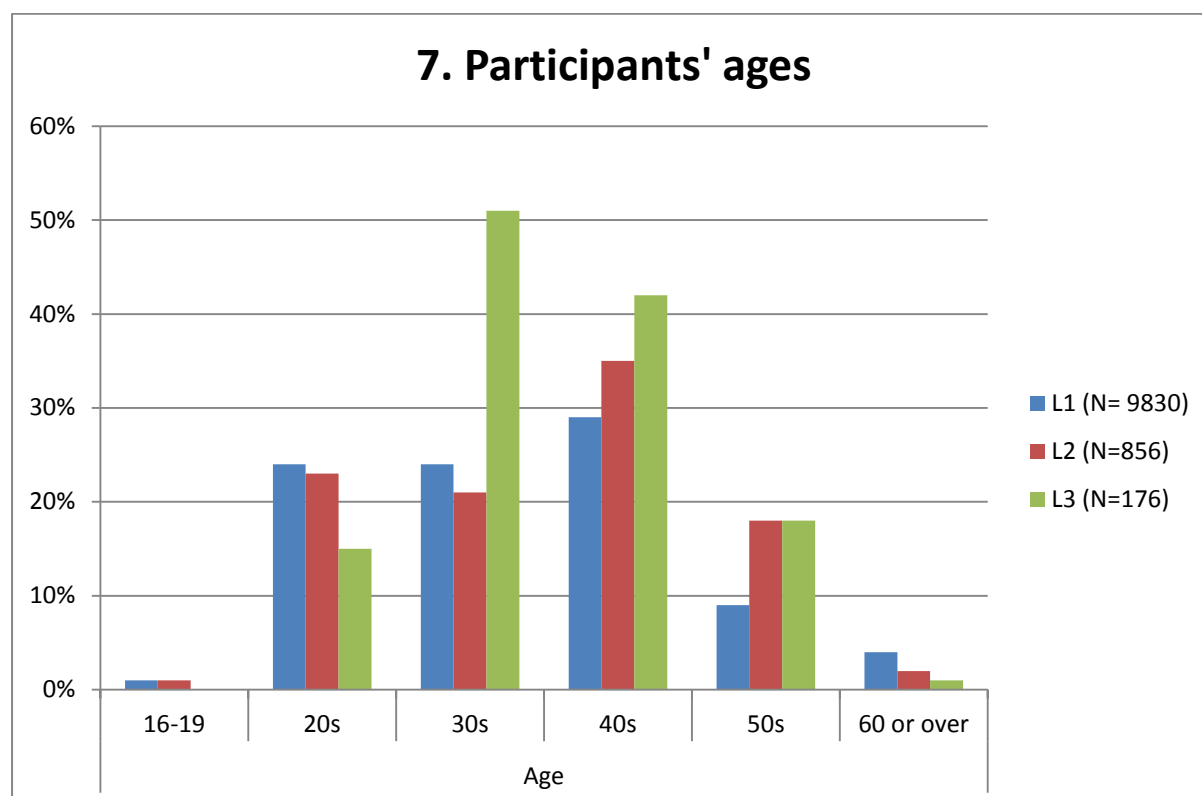


Chart 6 shows that the vast majority of participants ticked 'White-British' as their ethnicity. To compare, the most up-to-date statistics (DfE, 2013²⁵) show that 88.4% of teachers and 87.9% of teaching assistants were recorded as being 'White British'. L1 training attracted a more ethnically diverse group of trainees than L2 or L3. This may simply have been because far more L1 sessions were run



²⁵ DfE, 2013. *Statistical First Release. School Workforce in England: November 2012*. SFR 15/2013.

Chart 7 shows that all three levels of training attracted participants across a range of ages. Level 3 trainees were predominantly in their 30s or 40s. The most recent data on the teacher workforce indicates that the majority of teachers are in their 30s or 40s, with 23.6% under 30, and 21.2% over 50 (DfE, 2013²⁶).



²⁶ DfE, 2013. *Statistical First Release. School Workforce in England: November 2012*. SFR 15/2013.

Appendix 5 Age range catered for by session audiences across levels of training

This chart shows that, most frequently, the audience for Level 2 and especially Level 3 training sessions worked with children of 'mixed' or 'all ages', whereas most frequently the audience for Level 1 sessions worked with children of primary school age.

